SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2005, or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For transition period from _____.

Commission File Number 001-31918

HYBRIDON, INC.

(Exact name of registrant as specified in its charter)

Delaware	**04-3072298**
(State or other jurisdiction of Incorporation or organization)	*(I.R.S. Employer Identification Number)*

345 Vassar Street
Cambridge, Massachusetts 02139
(Address of principal executive offices)

(617) 679-5500
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☑ No ☐

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☑

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Common Stock, par value $.001 per share	111,104,064
Class	Outstanding as of August 1, 2005

HYBRIDON, INC.

FORM 10-Q

INDEX

PART I — FINANCIAL STATEMENTS

ITEM 1 — *UNAUDITED FINANCIAL STATEMENTS*

HYBRIDON, INC. AND SUBSIDIARIES
CONSOLIDATED CONDENSED BALANCE SHEETS
(UNAUDITED)

	JUNE 30, 2005	DECEMBER 31, 2004
Assets		
Current assets:		
Cash and cash equivalents	$ 4,031,433	$ 5,021,860
Short-term investments	7,397,820	9,391,140
Receivables	4,284,588	293,113
Prepaid expenses and other current assets	650,528	333,316
Total current assets	16,364,369	15,039,429
Property and equipment, net	289,040	351,791
Deferred financing costs	588,554	—
Total Assets	$ 17,241,963	$ 15,391,220
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 395,440	$ 354,736
Accrued expenses	1,085,975	1,332,150
Current portion of deferred revenue	2,133,787	171,287
Total current liabilities	3,615,202	1,858,173
Non-current portion of accrued expenses	60,000	240,000
Deferred revenue, net of current portion	2,293,219	523,655
Long term notes payable	5,032,750	—
Stockholders' equity:		
Preferred stock, $0.01 par value		
Authorized — 5,000,000 shares		
Series A convertible preferred stock		
Designated — 1,500,000 shares		
Issued and outstanding — 655 at June 30, 2005 and December 31, 2004	7	7
Common stock, $0.001 par value		
Authorized—200,000,000 and 185,000,000 shares at June 30, 2005 and December 31, 2004, respectively		
Issued and outstanding — 111,091,459 and 110,931,529 shares at June 30, 2005 and December 31, 2004, respectively	111,092	110,932
Additional paid-in capital	312,387,400	311,988,467
Accumulated deficit	(306,169,541)	(299,293,785)
Accumulated other comprehensive loss	(2,180)	(14,989)
Deferred compensation	(85,986)	(21,240)
Total stockholders' equity	6,240,792	12,769,392
Total Liabilities and Stockholders' Equity	$ 17,241,963	$ 15,391,220

The accompanying notes are an integral part of these consolidated condensed financial statements.

HYBRIDON, INC. AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF OPERATIONS

(UNAUDITED)

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2005	2004	2005	2004
Alliance revenue	$ 311,465	$ 88,190	$ 482,750	$ 733,375
Operating expenses:				
Research and development	3,052,071	2,540,767	5,650,746	5,346,107
General and administrative	1,013,636	1,024,893	1,791,972	1,921,534
Stock-based compensation from repriced options (*)	(55,715)	(256,646)	28,038	(573,784)
Total operating expenses	4,009,992	3,309,014	7,470,756	6,693,857
Loss from operations	(3,698,527)	(3,220,824)	(6,988,006)	(5,960,482)
Other income (expense):				
Investment income, net	83,159	50,077	150,295	86,226
Interest expense	(37,717)	—	(37,717)	(29,385)
Net loss	(3,653,085)	(3,170,747)	(6,875,428)	(5,903,641)
Accretion of preferred stock dividends (Note 7)	(164)	(158)	(328)	(2,675,677)
Net loss applicable to common stockholders	$ (3,653,249)	$ (3,170,905)	$ (6,875,756)	$ (8,579,318)
Basic and diluted net loss per share (Note 3)	$ (0.03)	$ (0.03)	$ (0.06)	$ (0.07)
Basic and diluted net loss per share applicable to common stockholders (Note 3)	$ (0.03)	$ (0.03)	$ (0.06)	$ (0.10)
Shares used in computing basic and diluted loss per common share	111,044,873	98,269,236	111,006,164	89,620,691

(*) The following summarizes the allocation of stock-based compensation from repriced options:

Research and development	$ (37,762)	$ (185,697)	$ 22,461	$ (416,066)
General and administrative	(17,953)	(70,949)	5,577	(157,718)
Total	$ (55,715)	$ (256,646)	$ 28,038	$ (573,784)

The accompanying notes are an integral part of these consolidated condensed financial statements.

HYBRIDON, INC. AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS

(UNAUDITED)

	SIX MONTHS ENDED JUNE 30,	
	2005	**2004**
Cash Flows From Operating Activities:		
Net loss	$(6,875,428)	$ (5,903,641)
Adjustments to reconcile net loss to net cash used in operating activities —		
Loss on disposal of property and equipment	2,134	—
Stock-based compensation	28,038	(573,784)
Depreciation and amortization expense	102,216	143,156
Issuance of common stock for services rendered	20,295	77,876
Non-cash interest expense	20,407	—
Changes in operating assets and liabilities —		
Accounts receivable	(158,142)	(62,550)
Prepaid expenses and other current assets	(317,212)	(205,610)
Accounts payable and accrued expenses	(405,878)	(186,245)
Deferred revenue	(101,269)	(63,769)
Net cash used in operating activities	(7,684,839)	(6,774,567)
Cash Flows From Investing Activities:		
Purchase of available for sale securities	(2,000,000)	(14,235,748)
Proceeds from sale and maturity of available-for-sale securities	4,000,000	5,500,000
Purchase of property and equipment	(10,904)	(18,024)
Net cash provided by (used in) investing activities	1,989,096	(8,753,772)
Cash Flow From Financing Activities:		
Proceeds from issuance of convertible notes payable	5,032,750	—
Sale of common stock and warrants, net of issuance costs	—	10,707,878
Payment on debt	—	(1,306,000)
Issuance costs from financing	(386,480)	—
Proceeds from exercise of common stock options and warrants	59,046	125,660
Net cash provided by financing activities	4,705,316	9,527,538
Net decrease in cash and cash equivalents	(990,427)	(6,000,801)
Cash and cash equivalents, beginning of period	5,021,860	7,607,655
Cash and cash equivalents, end of period	$ 4,031,433	$ 1,606,854
Supplemental disclosure of non-cash financing and investing activities:		
Issuance of warrants for financing	$ 219,385	$ —
Deferred compensation relating to issuance of stock options	$ 72,000	$ —
Accretion of Series A convertible preferred stock dividends (Note 7)	$ (328)	$ (569,683)
Dividend from induced conversion of Series A preferred stock (Note 7)	$ —	$ 3,245,360
Conversion of Series A preferred stock into common stock	$ —	$ 14,370
Issuance of stock for services	$ 20,295	$ 77,876
Cash paid for interest	$ —	$ 29,385

The accompanying notes are an integral part of these consolidated condensed financial statements.

HYBRIDON, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED CONDENSED FINANCIAL STATEMENTS

JUNE 30, 2005

(UNAUDITED)

(1) Organization

Hybridon, Inc. (the Company) was incorporated in the State of Delaware on May 25, 1989. The Company is engaged in the discovery, development and commercialization of novel therapeutics based on synthetic DNA for the treatment of cancer, asthma/allergies and infectious diseases. Hybridon's activities are primarily focused on the development of its immune modulatory oligonucleotide, or IMO, technology. Hybridon's IMO compounds are synthetic DNA-based sequences that are designed to mimic bacterial DNA and be recognized by a specific protein receptor called Toll-like Receptor 9, or TLR9, which triggers the activation and modulation of the immune system. The Company has also been a pioneer in the development of antisense technology, which uses synthetic DNA to block the production of disease causing proteins at the cellular level. Since 2003, Hybridon has devoted substantially all of its research and development efforts to developing its IMO technology and products and expects to continue to focus its research and development efforts in 2005 and in future years on its IMO technology and products. The Company plans to continue to seek to enter into collaborations with third parties for the development and commercialization of products based on its antisense technology.

Based on its current operating plan, the Company believes that its current cash, cash equivalents, short-term investments and the $4.0 million upfront payment received in July 2005 in connection with the Novartis collaboration will be sufficient to fund operations through mid 2006. The Company's actual cash requirements will depend on many factors, including particularly the scope and pace of its research and development efforts and its success in entering into strategic alliances.

The Company does not expect to generate significant additional funds internally until it successfully completes development and obtains marketing approval for products, either alone or in collaborations with third parties, which the Company expects will take a number of years. In addition, it has no committed external sources of funds. As a result, in order for the Company to continue to pursue its clinical and preclinical development programs and continue its operations beyond mid 2006, the Company must raise additional funds from debt, equity financings or from collaborative arrangements with biotechnology or pharmaceutical companies. There can be no assurance that the requisite funds will be available in the necessary time frame or on terms acceptable to the Company. If the Company is unable to raise sufficient funds, the Company may be required to delay, scale back or eliminate some or all of its operating plans and possibly relinquish rights to portions of the Company's technology or products. In addition, increases in expenses or delays in clinical development may adversely impact the Company's cash position and require further cost reductions. No assurance can be given that the Company will be able to operate profitably on a consistent basis, or at all, in the future.

(2) Unaudited Interim Financial Statements

The accompanying unaudited consolidated condensed financial statements included herein have been prepared by the Company in accordance with generally accepted accounting principles for interim financial information and pursuant to the rules and regulations of the Securities and Exchange Commission. Accordingly, certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. In the opinion of management, all adjustments, consisting of normal recurring adjustments, considered necessary for a fair presentation of interim period results have been included. The Company believes that its disclosures are adequate to make the information presented not misleading. Interim results for the three and six-month periods ended June 30, 2005 are not necessarily indicative of results that may be expected for the year ended December 31, 2005. For

further information, refer to the financial statements and footnotes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2004, which was filed with the Securities and Exchange Commission on March 25, 2005.

(3) Net Loss per Common Share

The following table sets forth the computation of basic and diluted loss per share:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2005	2004	2005	2004
Numerator:				
Net loss	$ (3,653,085)	$ (3,170,747)	$ (6,875,428)	$ (5,903,641)
Accretion of preferred stock dividends	(164)	(158)	(328)	(2,675,677)
Numerator for basic and diluted loss per share applicable to common shareholders	$ (3,653,249)	$ (3,170,905)	$ (6,875,756)	$ (8,579,318)
Denominator for basic and diluted loss per share	111,044,873	98,269,236	111,006,164	89,620,691
Loss per share — basic and diluted:				
Net loss per share	$ (0.03)	$ (0.03)	$ (0.06)	$ (0.07)
Accretion of preferred stock dividends	(0.00)	(0.00)	(0.00)	(0.03)
Net loss per share applicable to common stockholders	$ (0.03)	$ (0.03)	$ (0.06)	$ (0.10)

Basic net loss per common share is computed using the weighted average number of shares of common stock outstanding during the period. For the three and six months ended June 30, 2005 and 2004, diluted net loss per share of common stock is the same as basic net loss per share of common stock, as the effects of the Company's common stock equivalents are antidilutive. Total antidilutive securities were 39,373,895 and 27,972,186 at June 30, 2005 and 2004, respectively. These antidilutive securities, including stock options, warrants, convertible preferred stock and convertible debt instruments are not included in the Company's calculation of diluted net loss per common share.

(4) Cash Equivalents and Investments

The Company considers all highly liquid investments with maturities of 90 days or less when purchased to be cash equivalents. Cash and cash equivalents at June 30, 2005 and December 31, 2004 consisted of cash and money market funds.

The Company accounts for investments in accordance with Statement of Financial Accounting Standards (SFAS) No. 115, *Accounting for Certain Investments in Debt and Equity Securities*. Management determines the appropriate classification of marketable securities at the time of purchase. In accordance with SFAS No. 115, investments that the Company does not have the positive intent to hold to maturity are classified as "available-for-sale" and reported at fair market value. Unrealized gains and losses associated with "available-for-sale" investments are recorded in "Accumulated other comprehensive loss" on the accompanying consolidated balance sheet. The amortization of premiums and accretion of discounts, and any realized gains and losses and declines in value judged to be other than temporary, and interest and dividends are included in "Investment income, net" on the accompanying consolidated statement of operations for all available-for-sale securities. The Company had no "held-to-maturity" investments, as defined by SFAS No. 115, at June 30, 2005 and December 31, 2004. The cost of securities sold is based on the specific identification method. The Company had no realized gains or losses on its investments for the three and six months ended June 30, 2005 and 2004, respectively. There were no losses or permanent declines in value included in "investment income" for any securities in the three and six months ended June 30, 2005 and 2004.

The Company had no long-term investments as of June 30, 2005 and December 31, 2004. Available-for-sale securities are classified as short-term regardless of their maturity date if the Company has them available to fund

operations within one year of the balance sheet date. Auction securities are highly liquid securities that have floating interest or dividend rates that reset periodically through an auctioning process that sets rates based on bids. Issuers include municipalities, closed-end bond funds and corporations. These securities can either be debt or preferred shares. The Company's short-term investments consisted of the following at June 30, 2005 and December 31, 2004:

	June 30, 2005	December 31, 2004
Short-term available-for-sale investments at market value:		
Corporate bonds	$ —	$2,004,150
Government bonds	1,997,820	2,986,990
Auction securities	5,400,000	4,400,000
Total	$7,397,820	$9,391,140

(5) Property and Equipment

At June 30, 2005 and December 31, 2004, net property and equipment at cost consists of the following:

	June 30, 2005	December 31, 2004
Leasehold improvements	$ 424,500	$ 424,500
Laboratory equipment and other	1,706,590	1,804,799
Total property and equipment, at cost	2,131,090	2,229,299
Less: Accumulated depreciation and amortization	1,842,050	1,877,508
Property and equipment, net	$ 289,040	$ 351,791

In the first quarter of 2005, the Company wrote off unused property and equipment that had a cost of approximately $109,000 resulting in a loss of approximately $2,000.

(6) Stock-Based Compensation Related to Repriced Options

In September 1999, the Company's Board of Directors authorized the repricing of options to purchase 5,251,827 shares of common stock to an exercise price of $0.50 per share, which represented the market value of the common stock on the date of the repricing. These options are subject to variable plan accounting which requires the Company to remeasure the intrinsic value of the repriced options, through the earlier of the date of exercise, cancellation or expiration, at each reporting date. For the three months ended June 30, 2005 and 2004, the Company recognized a credit of approximately $56,000 and $257,000, respectively, as stock compensation relating to these repriced options as a result of a decrease in the intrinsic value of these options between March 31, 2005 and June 30, 2005 and March 31, 2004 and June 30, 2004, respectively. For the six months ended June 30, 2005, the Company recognized approximately $28,000 as stock compensation expense relating to these repriced options as a result of an increase in the intrinsic value of these options between December 31, 2004 and June 30, 2005. For the six months ended June 30, 2004, the Company recognized a credit of approximately $574,000 for stock compensation from repriced options as a result of a decrease in the intrinsic value of these options between December 31, 2003 and June 30, 2004. As of June 30, 2005 and 2004, options to purchase 2,108,802 and 2,406,546 shares, respectively, remained subject to variable plan accounting.

(7) Series A Convertible Preferred Stock

On December 4, 2003, the Company's stockholders approved amendments to the Company's Restated Certificate of Incorporation that:

- reduced the liquidation preference of the Company's Series A convertible preferred stock from $100 per share to $1 per share;
- reduced the annual dividend on the Company's Series A convertible preferred stock from 6.5% to 1%; and

- increased the number of shares of the Company's common stock issuable upon conversion of the Company's Series A convertible preferred stock by 25% over the number of shares that would otherwise be issuable for a 60-day conversion period between December 4, 2003 and February 2, 2004 inclusive.

During the 60-day conversion period, the conversion ratio was increased so that the Series A convertible preferred stockholders could receive approximately 29.41 shares of common stock for each share of Series A convertible preferred stock converted instead of the stated conversion rate of 23.53 shares. The value of the additional shares issued during the 60-day conversion period was recorded as an addition to dividends in the statement of operations at the time of conversion. For the six months ended June 30, 2004 the Company recorded $3.2 million of preferred stock dividends related to the additional shares issued in 2004.

From January 1, 2004 through June 30, 2004, 488,570 shares of Series A convertible preferred stock were converted into 14,369,740 shares of the Company's common stock at the adjusted conversion ratio. As a result of these conversions, $570,000 of dividends accreted during the year ended December 31, 2003 were reversed during the six month period ended June 30, 2004 because the former holders of these shares of Series A convertible preferred stock were no longer entitled to such dividends once their shares of series A convertible preferred stock were converted into common stock.

(8) Stock-Based Compensation

The Company applies the disclosure-only provisions of SFAS No. 123, *Accounting for Stock-Based Compensation*. The Company continues to account for employee stock compensation at intrinsic value, in accordance with Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees* and related interpretations, with disclosure of the effects of fair value accounting on net income or net loss and related per share amounts on a pro forma basis.

The pro forma effect of applying SFAS No. 123 for the three and six months ended June 30, 2005 and 2004 would be as follows:

	Three months ended June 30,		Six months ended June 30,	
	2005	2004	2005	2004
Net loss applicable to common stockholders, as reported	$(3,653,249)	$(3,170,905)	$(6,875,756)	$(8,579,318)
Less: stock-based compensation expense (income) included in reported net loss	(55,715)	(256,646)	28,038	(573,784)
Add: stock-based employee compensation expense determined under fair value based method for all awards	(236,672)	(274,013)	(452,744)	(479,748)
Pro forma net loss applicable to common stockholders, as adjusted for the effect of applying SFAS No. 123	$(3,945,636)	$(3,701,564)	$(7,300,462)	$(9,632,850)
Basic and diluted net loss per share applicable to common stockholders —				
As reported	$ (0.03)	$ (0.03)	$ (0.06)	$ (0.10)
Pro forma	$ (0.04)	$ (0.04)	$ (0.07)	$ (0.11)

The effects on the three and six months ended June 30, 2005 and 2004 pro forma net loss and net loss per share of expensing the estimated fair value of stock options are not necessarily representative of the effects on reported net income (loss) for the years ended December 31, 2005 and 2004 and future years because of the vesting periods of stock options and the potential for issuance of additional stock options in future periods.

(9) Related Party Transactions

In the three and six months ended June 30, 2005, the Company paid Pillar Investment Limited, which is controlled by a director of the Company, approximately $264,000 in cash and issued warrants to purchase 565,478 shares of common stock at an exercise price of $0.89 per share as fees in connection with Pillar Investment Limited acting as the placement agent for the sale of the 4% convertible subordinated notes in May 2005 (Note 11). The warrants have a Black-Scholes value of approximately $219,000.

In the three and six months ended June 30, 2005, the Company paid another director of the Company $5,000 and $10,000, respectively, for consulting services.

(10) Comprehensive Income

The following table includes the components of comprehensive income for the three and six months ended June 30, 2005 and 2004.

	Three months ended June 30,		Six months ended June 30,	
	2005	2004	2005	2004
Net loss	$(3,653,085)	$(3,170,747)	$(6,875,428)	$(5,903,641)
Other comprehensive income (loss)	7,540	(26,570)	12,809	(21,723)
Total comprehensive loss	$(3,645,545)	$(3,197,317)	$(6,862,619)	$(5,925,364)

Other comprehensive income represents the net unrealized losses on available-for-sale investments.

(11) Notes Payable

On May 24, 2005, Hybridon sold approximately $5.0 million in principal amount of 4% convertible subordinated notes due April 30, 2008 (the 4% Notes). The Company has agreed to pay interest on the 4% Notes in arrears on December 15, 2005 for the period from the issuance to that date, and thereafter semi-annually in arrears on April 30 and October 30 and at maturity or conversion. The Company has the option to pay interest on the 4% Notes in cash or in shares of the Company's common stock at the then current market value of the Company's common stock. Holders of the 4% Notes may convert, at any time prior to maturity, the principal amount of the 4% Notes (or any portion thereof) into shares of the Company's common stock at a conversion price of $0.89 per share. The Company may cause the principal amount of the 4% Notes to be converted into shares of the Company's common stock at the then current conversion price at any time prior to May 24, 2006 if the volume weighted average of the closing sales prices of the Company's common stock for 10 consecutive trading days is equal to at least $1.78 per share or at any time on or after May 24, 2006 if the volume weighted average of the closing sales prices of the Company's common stock for 10 consecutive trading days is equal to at least $1.12 per share. If the Company conducts a financing resulting in greater than $10.0 million in gross proceeds, the Company may elect to convert the 4% Notes into shares of the Company's common stock at the then current conversion price if the purchase price paid by the new investors in the financing (on a common stock equivalent basis) is greater than the then current conversion price of the 4% Notes. Holders of the 4% Notes may demand that the Company redeem the 4% Notes upon a change in control, a merger with an independent company, or a change in the Company's listing status.

The Company capitalized its financing costs associated with the sale of the 4% Notes and is amortizing them over the term of the 4% Notes. These costs include the Black-Scholes value of the warrants, legal expenses and miscellaneous costs related to the placement agent.

On April 1, 2004, the Company's 9% convertible subordinated notes matured. As a result, the Company paid $1,306,000 to the note holders in payment of the principal amount outstanding under the notes plus accrued interest through the maturity date of $58,770.

(12) Financing

In April 2004, the Company raised approximately $11.8 million in gross proceeds through a registered direct offering. In the offering, the Company sold 16,899,800 shares of common stock and warrants to purchase 3,041,964 shares of common stock to institutional and other investors. The warrants to purchase common stock have an exercise price of $1.14 per share and are exercisable at any time on or after October 21, 2004 and on or prior to April 20, 2009. The warrants may be exercised by cash payment only. On or after October 21, 2005, the Company may redeem the warrants if the closing sales price of the common stock for each day of any 20 consecutive trading day period ending within 30 days prior to providing notice of redemption is greater than or equal to $2.60 per share. The redemption price will be $0.01 per share of common stock underlying the warrants. The Company may exercise its right to redeem the warrants by providing 30 days prior written notice to the holders of the warrants. The net proceeds to the Company from the offering, excluding the proceeds of any future exercise of the warrants, totaled approximately $10.7 million.

(13) Option Awards

On May 12, 2005, Hybridon's Compensation Committee of the Board of Directors approved a grant of 1,000,000 stock options to the Company's Chief Executive Office. These options vest quarterly over a three-year period. In addition, on May 12, 2005, the Compensation Committee agreed to grant additional stock options to the CEO to purchase an aggregate of 1,000,000 shares of the Company's common stock upon the achievement of specified milestones. Any options granted as a result of the achievement of these milestones will vest over a three-year period commencing on the date the specified milestone was achieved. On June 1, 2005, 400,000 of these options were granted resulting in a charge to deferred compensation of $72,000, which represents the difference between the option exercise price and the market price on the date that the milestone was achieved. The exercise price of the remaining 600,000 options, if granted, will be set at the current market price on the date of grant.

(14) Novartis Collaboration

On May 31, 2005, the Company entered into a research collaboration and option agreement and a license, development and commercialization agreement with Novartis International Pharmaceutical Ltd. to discover, develop and potentially commercialize immune-modulatory oligonucleotides that are toll-like receptor 9 agonists and that are identified as potential treatments for human allergy and respiratory diseases. In addition, beginning on May 31, 2007, if specified conditions are satisfied, Novartis may expand the collaboration to include additional human disease areas, other than oncology and infectious diseases. Under the terms of the agreements, Novartis paid the Company a $4.0 million license fee in July 2005 and agreed to fund substantially all research activities. If Novartis elects to exercise its option to develop and commercialize licensed IMOs in the initial collaboration disease areas, Novartis is potentially obligated to pay the Company up to $132.0 million based on the achievement of clinical development, regulatory approval and cumulative net sales milestones. Novartis is also obligated to make royalty payments based on annual net sales of the product(s) commercialized under the agreement.

As of June 30, 2005, the $4.0 million upfront payment was recorded on the Company's balance sheet in accounts receivable and deferred revenue. The Company is recognizing the $4.0 million upfront payment as revenue over the two-year term of the research collaboration.

(15) New Accounting Pronouncement

In December 2004, the FASB issued SFAS No. 123 (revised 2004), *"Share-Based Payment"*, which is a revision of SFAS No. 123, *"Accounting for Stock-Based Compensation"*. SFAS No. 123(R) supersedes APB Opinion No. 25, *"Accounting for Stock Issued to Employees"*, and amends SFAS No. 95, *"Statement of Cash Flows"*. Generally, the approach in SFAS No. 123(R) is similar to the approach described in SFAS No. 123. However, SFAS No. 123(R) requires all share-based payments to employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative. The new standard will be effective for the Company in the quarter beginning January 1, 2006.

As permitted by SFAS 123, the Company currently accounts for share-based payments to employees using APB 25's intrinsic value method and, as such, generally, except for marking to market the repriced options discussed in Note 6, the Company recognizes no compensation cost for employee stock options. Accordingly, the adoption of SFAS 123(R)'s fair value method may have a material impact on the Company's results of operations, although it will have no impact on the Company's overall financial position. The impact of adopting SFAS 123(R) cannot be predicted at this time because it will depend on levels of share-based payments granted in the future. However, had the company adopted SFAS 123(R) in a prior period, the impact of applying that standard would have approximated the impact of SFAS 123 as described in the disclosure of pro forma net loss and net loss per share in Note 8 to these financial statements. The Company is currently evaluating the impact of adopting of SFAS 123(R) on its financial position and results of operations, including the valuation methods and support for the assumptions that underlie the valuation of the awards.

ITEM 2. ***MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS***

GENERAL

We are engaged in the discovery, development and commercialization of novel therapeutics based on synthetic DNA for the treatment of cancer, asthma/allergies and infectious diseases. Our activities are primarily focused on the development of our immune modulatory oligonucleotide, or IMO, technology. Our IMO compounds are synthetic DNA-based sequences that are designed to mimic bacterial DNA and be recognized by a specific protein receptor called Toll-like Receptor 9, or TLR9, which triggers the activation and modulation of the immune system. We also have been a pioneer in the development of antisense technology, which uses synthetic DNA to block the production of disease causing proteins at the cellular level. Since 2003, we have devoted substantially all of our research and development efforts to our IMO technology and products and expect to continue to focus our research and development efforts in 2005 and in future years on our IMO technology and products. We plan to continue to seek to enter into collaborations with third parties for the development and commercialization of products based on our antisense technology.

We have incurred total losses of $306.2 million through June 30, 2005 and expect to incur substantial operating losses in the future. In order to commercialize our therapeutic products, we need to address a number of technological challenges and to comply with comprehensive regulatory requirements.

APPLICATION OF CRITICAL ACCOUNTING POLICIES

This management's discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates and judgments, including those related to revenue recognition. Management bases its estimates and judgments on historical experience and on various other factors that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We regard an accounting estimate or assumption underlying our financial statements as a "critical accounting estimate" where (i) the nature of the estimate or assumption is material due to the level of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and (ii) the impact of the estimates and assumptions on financial condition or operating performance is material.

Our significant accounting policies are described in Note 2 of the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the year ended December 31, 2004. Not all of these significant accounting policies, however, fit the definition of "critical accounting estimates." We believe that our accounting policies relating to revenue recognition, as described under the caption "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies" in our Annual Report on Form 10-K for the year ended December 31, 2004, fit the definition of "critical accounting estimates and judgments."

RESULTS OF OPERATIONS

Three and Six Months Ended June 30, 2005 and 2004

Alliance Revenues

Total alliance revenue increased by $223,000, or 253%, from $88,000 for the three months ended June 30, 2004 to $311,000 for the three months ended June 30, 2005 and decreased by $250,000, or 34%, from $733,000 for the six-months ended June 30, 2004 to $483,000 for the six months ended June 30, 2005. Alliance revenue consists of revenue we receive under our collaboration and licensing agreements and includes research and development payments, milestone payments, license fees, sublicense fees, and royalty payments. The increase in revenue in the second quarter of 2005 reflects the portion of the $4.0 million upfront fee under the Novartis agreement recognized during the period and related research and development revenue associated with the agreement. The decrease in the first half of 2005 as compared to the first half of 2004 primarily reflects research and development revenue in the first half of 2004 associated with supplying a collaborator with drug product for clinical trials during the first quarter of 2004 and the achievement of a milestone for which milestone fees were earned in the first quarter of 2004.

Research and Development Expenses

Research and development expenses increased by $511,000, or 20%, from $2,541,000 for the three months ended June 30, 2004 to $3,052,000 for the three months ended June 30, 2005 and increased by $305,000, or 6%, from $5,346,000 for the six months ended June 30, 2004 to $5,651,000 for the six months ended June 30, 2005. The increase for the three and six months ended June 30, 2005 primarily reflects the manufacturing costs for the production of clinical drug supply being utilized in our ongoing phase 2 study of IMOxine for the treatment of renal cell carcinoma and other future trials. The increase in the six-month period ended June 30, 2005 is also attributable to our purchase of raw materials in the first quarter of 2005 in anticipation of the production of clinical drug supplies completed in the second quarter of 2005. The increase in costs in the six-month period was partially offset by increased costs in the 2004 period incurred in connection with the cost of supplying a collaboration partner with drug product for clinical trials during the first quarter of 2004. Our other research and development costs in both periods relate primarily to the cost of advancing our basic IMO research program and developing our IMO technology. These costs include salaries, allocated overhead, general lab supplies and patent preparation costs and related filing fees.

Our lead drug candidate in our IMO program is HYB2055. We are developing HYB2055 for oncology applications under the name IMOxine. In connection with developing HYB2055, we incurred approximately $1.3 million and $0.7 million in direct external expenses in the three months ended June 30, 2005 and 2004, respectively, and we incurred approximately $2.0 million and $1.3 million in direct external expenses in the six months ended June 30, 2005 and 2004, respectively. These expenses include payments to independent contractors and vendors for preclinical studies and drug manufacturing and related costs but exclude internal costs such as payroll and overhead. In October 2004, we commenced patient recruitment for an open label, multi-center phase 2 clinical trial of IMOxine as a monotherapy in patients with metastatic or recurrent clear cell renal carcinoma. We plan to recruit a minimum of 46 patients into the first stage of the trial. We are also conducting a phase 1 clinical trial of IMOxine in patients with refractory solid tumor cancers, which is being conducted at the Lombardi Comprehensive Cancer Center at Georgetown University Medical Center in Washington, D.C. Except for one patient who has received IMOxine treatment in the trial for over eighteen months, treatment under the protocol was completed in June 2004 and results were presented at the American Society of Clinical Oncology annual meeting in May 2005. Weekly IMOxine treatment was well tolerated by advanced cancer patients.

Because these projects are in the early stage of development and given the technological and regulatory hurdles likely to be encountered in the development and commercialization of our products, the future timing and costs of our various research and development programs are uncertain.

General and Administrative Expenses

General and administrative expenses decreased by $11,000, or 1%, from $1,025,000 in the three months ended June 30, 2004 to $1,014,000 in the three months ended June 30, 2005 and decreased by $130,000, or 7%, from $1,922,000 in the six months ended June 30, 2004 to $1,792,000 in the six months ended June 30, 2005. The decrease for the three and six month periods is primarily the result of lower compensation costs. The decrease in the three- and six-month periods was partially offset by higher corporate legal expenses associated with our Novartis agreement in the three months ended June 30, 2005. The decrease in the six month period is also attributable to lower insurance expenses in the first quarter of 2005.

Stock-Based Compensation

As a result of repricing of our stock options in September 1999, some of our outstanding stock options are subject to variable plan accounting which requires us to measure the intrinsic value of the repriced options through the earlier of the date of exercise, cancellation or expiration at each reporting date. Operating results include a credit of approximately $56,000 and $257,000 for the three months ended June 30, 2005 and 2004, respectively, as a result of a decrease in the intrinsic value of these repriced options from March 31 to June 30 of each year. We recorded approximately $28,000 of expense for the six months ended June 30 ,2005 from these repriced options as a result of an increase in the intrinsic value of these options between December 31, 2004 and June 30, 2005. For the six months ended June 30, 2004, we recorded a credit of approximately $574,000 to stock compensation as a result of a decrease in the intrinsic value of these repriced options from December 31, 2003 to June 30, 2004. Compensation charges and credits will likely occur in the future based upon changes in the market value of our common stock.

Investment Income, net

Investment income increased by approximately $33,000, or 66%, from $50,000 in the three months ended June 30, 2004 to $83,000 in the three months ended June 30, 2005 and increased by approximately $64,000, or 74%, from $86,000 in the six months ended June 30, 2004 to $150,000 in the six months ended June 30, 2005. The change for the three and six months ended June 30, 2005 was primarily a result of higher interest rates.

Interest Expense

Interest expense in the three and six months ended June 30, 2005 consisted of interest on our 4% notes secured in May 2005 and amortization of deferred financing costs associated with these notes. Our interest expense for the six months ended June 30, 2004 consisted of interest on our 9% notes. On April 1, 2004, upon the maturity of our 9% notes, we paid $1,306,000 representing the outstanding principal amount of our 9% notes, plus accrued interest. As a result, we had no interest expense for the three months ended June 30, 2004.

Preferred Stock Dividends

Dividends on the remaining 655 shares of Series A preferred stock outstanding are accreted at an annual rate of 1%. Accretion of preferred stock dividends decreased by approximately $2,676,000, or 100%, from $2,676,000 for the six months ended June 30, 2004 to nearly zero for the six months ended June 30, 2005. The decrease for the six-month period was primarily attributable to the conversions of Series A convertible preferred stock into common stock in the fourth quarter of 2003 and the first quarter of 2004. The conversion took place in accordance with an amendment to our Restated Certificate of Incorporation approved by our stockholders on December 4, 2003 that increased the number of shares of our common stock issuable upon conversion of our series A convertible preferred stock by 25% over the number of shares that would otherwise have been issuable upon conversion during a 60-day conversion period. The value of the additional shares issued during the 60-day conversion period was recorded as an

addition to dividends in the statement of operations at the time of conversion. The value of the additional dividend amounted to $3,245,000 during the first six months of 2004 and was partially offset by a reversal of $570,000 of dividends accreted during the year ended December 31, 2003 with respect to these shares that was reversed during the six month period ended June 30, 2004 because the former holders of these shares of Series A convertible preferred stock were no longer entitled to such dividends once their shares of series A convertible preferred stock were converted into common stock.

Net Loss Applicable to Common Stockholders

As a result of the factors discussed above, our net loss applicable to common stockholders amounted to approximately $3,653,000 and $3,171,000 for the three months ended June 30, 2005 and 2004, respectively and to approximately $6,876,000 and $8,579,000 for the six months ended June 30, 2005 and 2004, respectively.

LIQUIDITY AND CAPITAL RESOURCES

Sources of Liquidity

We require cash to fund our operating expenses, to make capital expenditures and to pay debt service. We have funded our cash requirements primarily through equity and debt financing, license fees and research funding under collaborative and license agreements.

Cash Flows

As of June 30, 2005, we had approximately $11,429,000 in cash, cash equivalents and short-term investments, a decrease of approximately $2,984,000 from December 31, 2004.

We used $7,685,000 of cash for operating activities during the six months ended June 30, 2005, principally to fund our research and development expenses and our general and administrative expenses. The $7,685,000 primarily consists of our net loss of $6,875,000 for the period, as adjusted for the increase in our accounts receivable and prepaid expenses reflecting the upfront license fee and research and development payments due us under our collaboration agreement with Novartis and annual insurance premiums paid at the beginning of the year, respectively, and for the decrease in our accrued expenses reflecting charges for raw materials paid in the second quarter for future manufacturing of our drug products and the continued payments due under our former CEO's severance agreement.

Net cash provided by investing activities reflects the proceeds of $4,000,000 that we received from the sale and maturity of "available-for-sale" securities offset by the purchase of $2,000,000 in "available-for-sale" securities in the six months ended June 30, 2005.

Net cash provided by financing activities reflects the approximately $5,033,000 we received from the issuance of our 4% notes offset by the expenses associated with their issuance in the six months ended June 30, 2005.

Funding Requirements

Based on our current operating plan, we believe that our existing cash, cash equivalents, short-term investments and the $4.0 million upfront payment received in July 2005 in connection with the Novartis collaboration will be sufficient to fund operations through mid 2006. Our actual cash requirements will depend on many factors, including particularly the scope and pace of our research and development efforts and our success in entering into strategic alliances.

In May 2005, we issued approximately $5.0 million in principal amount of 4% convertible subordinated notes due April 30, 2008. Interest on the 4% convertible subordinated notes is payable in arrears on December 15, 2005 for the period from issuance to that date, and thereafter semi-annually on April 30 and October 30 and at maturity or

conversion. We have the option to pay interest on the 4% convertible subordinated notes in cash or in shares of common stock at the then current market value of the common stock.

We do not expect to generate significant additional funds internally until we successfully complete development and obtain marketing approval for products, either alone or in collaboration with third parties, which we expect will take a number of years. In addition, we have no committed external sources of funds. As a result, in order for us to continue to pursue our clinical and preclinical development programs and continue operations beyond mid 2006, we will need to raise additional funds from debt, equity financings or from collaborative arrangements with biotechnology or pharmaceutical companies. There can be no assurance that the requisite funds will be available in the necessary time frame or on terms acceptable to us. Should we be unable to raise sufficient funds, we may be required to significantly curtail our operating plans and possibly relinquish rights to portions of our technology or products. In addition, increases in expenses or delays in clinical development may adversely impact our cash position and require further cost reductions. No assurance can be given that we will be able to operate profitably on a consistent basis, or at all, in the future. We believe that the key factors that will affect our internal and external sources of cash are:

- the success of our clinical and preclinical development programs;
- the receptivity of the capital markets to financings by biotechnology companies; and
- our ability to enter into strategic collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

Contractual Obligations

We have contractual obligations in the form of employment agreements, operating leases and consulting and collaboration agreements. Our contractual obligations as of December 31, 2004 were set forth under the caption “Contractual Obligations” in our Annual Report on Form 10-K for the year ended December 31, 2004.

In May 2005, we issued approximately $5.0 million in principal amount of 4% convertible subordinated notes. On April 30, 2008 the entire principal amount of 4% convertible subordinated notes will become due and payable.

FORWARD-LOOKING STATEMENTS

This quarterly report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements, other than statements of historical facts, included or incorporated in this report regarding our strategy, future operations, financial position, future revenues, projected costs, prospects, plans and objectives of management are forward-looking statements. The words “believes,” “anticipates,” “estimates,” “plans,” “expects,” “intends,” “may,” “projects,” “will,” and “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. These important factors include those set forth below under “Risk Factors.” These factors and the other cautionary statements made in this quarterly report should be read as being applicable to all related forward-looking statements whenever they appear in this quarterly report. In addition, any forward-looking statements represent our estimates only as of the date that this quarterly report is filed with the SEC and should not be relied upon as representing our estimates as of any subsequent date.

We do not assume any obligation to update any forward-looking statements. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

RISK FACTORS

Investing in our common stock involves a high degree of risk, and you should carefully consider the risks and uncertainties described below in addition to the other information included or incorporated by reference in this quarterly report. If any of the following risks actually occurs, our business, financial condition or results of operations would likely suffer, possibly materially. In that case, the trading price of our common stock could fall.

Risks Relating to Our Financial Results and Need for Financing

We have incurred substantial losses and expect to continue to incur losses. We will not be successful unless we reverse this trend.

We have incurred losses in every year since our inception, except for 2002 when our recognition of revenues under a license and collaboration agreement resulted in us reporting net income for that year. As of June 30, 2005, we had incurred operating losses of approximately $306.2 million. We expect to continue to incur substantial operating losses in future periods. These losses, among other things, have had and will continue to have an adverse effect on our stockholders' equity, total assets and working capital.

We have received no revenues from the sale of drugs. To date, almost all of our revenues have been from collaborative and license agreements. We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any drugs. Because of the numerous risks and uncertainties associated with developing drugs, we are unable to predict the extent of any future losses, whether or when any of our products will become commercially available, or when we will become profitable, if at all.

We will need additional financing, which may be difficult to obtain. Our failure to obtain necessary financing or doing so on unattractive terms could adversely affect our discovery and development programs and other operations.

We will require substantial funds to conduct research and development, including preclinical testing and clinical trials of our drugs. We will also require substantial funds to conduct regulatory activities and to establish commercial manufacturing, marketing and sales capabilities. We believe that, based on our current operating plan, our existing cash, cash equivalents, short-term investments, and the $4.0 million upfront payment that we received in July 2005 in connection with the Novartis collaboration, will be sufficient to fund our operations through mid 2006. However, we could reduce planned activities if we need to conserve such funds.

We will need to raise additional funds to operate our business beyond such time. We believe that the key factors that will affect our ability to obtain additional funding are:

- the success of our clinical and preclinical development programs;
- the receptivity of the capital markets to financings by biotechnology companies; and
- our ability to enter into strategic collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

Additional financing may not be available to us when we need it or may not be available to us on favorable terms. We could be required to seek funds through arrangements with collaborators or others that may require us to relinquish rights to some of our technologies, drug candidates or drugs which we would otherwise pursue on our own. In addition, if we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. The terms of any financing may adversely affect the holdings or the rights of existing stockholders. If we are unable to obtain adequate funding on a timely basis or at all, we may be required to significantly curtail one or more of our discovery or development programs. For example, we significantly curtailed expenditures on our research and development programs during 1999 and 2000 because we did not have sufficient funds available to advance these programs at planned levels.

Risks Relating to Our Business, Strategy and Industry

We are depending heavily on the success of our lead drug candidate, IMOxine, which is in clinical development. If we are unable to commercialize this product, or experience significant delays in doing so, our business will be materially harmed.

We are investing a significant portion of our time and financial resources in the development of our lead drug candidate, IMOxine. We anticipate that our ability to generate product revenues will depend heavily on the successful development and commercialization of this product. The commercial success of this product will depend on several factors, including the following:

- successful completion of clinical trials;
- receipt of marketing approvals from the FDA and equivalent foreign regulatory authorities;
- establishing commercial manufacturing arrangements with third party manufacturers;
- launching commercial sales of the product, whether alone or in collaboration with others; and
- acceptance of the product in the medical community and with third party payors.

Our efforts to commercialize this product are at an early stage, as we are currently conducting a phase 2 clinical trial in patients with metastatic or recurrent clear cell renal carcinoma. If we are not successful in commercializing this product, or are significantly delayed in doing so, our business will be materially harmed.

If our clinical trials are unsuccessful, or if they are significantly delayed, we may not be able to develop and commercialize our products.

We may not be able to successfully complete any clinical trial of a potential product within any specified time period. In some cases, we may not be able to complete the trial at all. Moreover, clinical trials may not show our potential products to be both safe and efficacious. Thus, the FDA and other regulatory authorities may not approve any of our potential products for any indication.

In order to obtain regulatory approvals for the commercial sale of our products, we will be required to complete extensive clinical trials in humans to demonstrate the safety and efficacy of our drug candidates. We may not be able to obtain authority from the FDA or other equivalent foreign regulatory agencies to complete these trials or commence and complete any other clinical trials.

The results from preclinical testing of a drug candidate that is under development may not be predictive of results that will be obtained in human clinical trials. In addition, the results of early human clinical trials may not be predictive of results that will be obtained in larger scale, advanced stage clinical trials. A failure of one or more of our clinical trials can occur at any stage of testing. Further, there is to date little data on the long-term clinical safety of our lead compounds under conditions of prolonged use in humans, nor on any long-term consequences subsequent to human use. We may experience numerous unforeseen events during, or as a result of, preclinical testing and the clinical trial process that could delay or inhibit our ability to receive regulatory approval or commercialize our products, including:

- regulators or institutional review boards may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- our preclinical tests or clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional preclinical testing or clinical trials or we may abandon projects that we expect may not be promising;

- we might have to suspend or terminate our clinical trials if the participating patients are being exposed to unacceptable health risks;
- regulators or institutional review boards may require that we hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements;
- the cost of our clinical trials may be greater than we currently anticipate; and
- the effects of our products may not be the desired effects or may include undesirable side effects or the products may have other unexpected characteristics.

As an example, in 1997, after reviewing the results from the clinical trial of GEM91, a 1st generation antisense compound and our lead drug candidate at the time, we determined not to continue the development of GEM91 and suspended clinical trials of this product candidate.

The rate of completion of clinical trials is dependent in part upon the rate of enrollment of patients. The rate of enrollment in our ongoing phase 2 clinical trial of IMOxine has thus far been slower than anticipated and may delay the completion of trial beyond the time we expected. Patient accrual is a function of many factors, including:

- the size of the patient population,
- the proximity of patients to clinical sites,
- the eligibility criteria for the study,
- the nature of the study,
- the existence of competitive clinical trials and
- the availability of alternative treatments.

Our product development costs will increase if we experience delays in our clinical trials. We do not know whether planned clinical trials will begin as planned, will need to be restructured or will be completed on schedule, if at all. Significant clinical trial delays also could allow our competitors to bring products to market before we do and impair our ability to commercialize our products.

We face substantial competition which may result in others discovering, developing or commercializing drugs before or more successfully than us.

The biotechnology industry is highly competitive and characterized by rapid and significant technological change. We face, and will continue to face, intense competition from organizations such as pharmaceutical and biotechnology companies, as well as academic and research institutions and government agencies. Some of these organizations are pursuing products based on technologies similar to our technologies. Other of these organizations have developed and are marketing products, or are pursuing other technological approaches designed to produce products, that are competitive with our product candidates in the therapeutic effect these competitive products have on diseases targeted by our product candidates. Our competitors may discover, develop or commercialize products or other novel technologies that are more effective, safer or less costly than any that we are developing. Our competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours.

Many of our competitors are substantially larger than we are and have greater capital resources, research and development staffs and facilities than we have. In addition, many of our competitors are more experienced than we

are in drug discovery, development and commercialization, obtaining regulatory approvals and drug manufacturing and marketing.

We anticipate that the competition with our products and technologies will be based on a number of factors including product efficacy, safety, availability and price. The timing of market introduction of our products and competitive products will also affect competition among products. We expect the relative speed with which we can develop products, complete the clinical trials and approval processes and supply commercial quantities of the products to the market to be important competitive factors. Our competitive position will also depend upon our ability to attract and retain qualified personnel, to obtain patent protection or otherwise develop proprietary products or processes and to secure sufficient capital resources for the period between technological conception and commercial sales.

Because the products that we may develop will be based on new technologies and therapeutic approaches, the market may not be receptive to these products upon their introduction.

The commercial success of any of our products for which we may obtain marketing approval from the FDA or other regulatory authorities will depend upon their acceptance by the medical community and third party payors as clinically useful, cost-effective and safe. Many of the products that we are developing are based upon technologies or therapeutic approaches that are relatively new and unproven. The FDA has only granted marketing approval for one product based on antisense technology which is currently being marketed by another company for the treatment of cytomegalovirus retinitis, an infectious disease, in patients with AIDs. The FDA has not granted marketing approval to any products based on IMO technology and no such products are currently being marketed. As a result, it may be more difficult for us to achieve regulatory approval or market acceptance of our products. Our efforts to educate the medical community on these potentially unique approaches may require greater resources than would be typically required for products based on conventional technologies or therapeutic approaches. The safety, efficacy, convenience and cost-effectiveness of our products as compared to competitive products will also affect market acceptance.

Competition for technical and management personnel is intense in our industry, and we may not be able to sustain our operations or grow if we are unable to attract and retain key personnel.

Our success is highly dependent on the retention of principal members of our technical and management staff, including Sudhir Agrawal. Dr. Agrawal serves as our President, Chief Scientific Officer and Chief Executive Officer. Dr. Agrawal has extensive experience in the pharmaceutical industry, has made significant contributions to the field of nucleic acid chemistry and is named as an inventor on over 200 patents and patent applications worldwide. Dr. Agrawal provides the scientific leadership for our research and development activities and directly supervises our research staff. The loss of Dr. Agrawal's services would be detrimental to our ongoing scientific progress and the execution of our business plan.

We are a party to an employment agreement with Dr. Agrawal for a term commencing on April 1, 2002 and ending on April 1, 2007. The agreement is currently being amended to reflect Dr. Agrawal's current responsibilities as Chief Executive Officer. This agreement may be terminated by us or Dr. Agrawal for any reason or no reason at any time upon notice to the other party. We do not carry key man life insurance for Dr. Agrawal.

Furthermore, our future growth will require hiring a significant number of qualified technical and management personnel. Accordingly, recruiting and retaining such personnel in the future will be critical to our success. There is intense competition from other companies and research and academic institutions for qualified personnel in the areas of our activities. If we are not able to continue to attract and retain, on acceptable terms, the qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or grow.

Regulatory Risks

We may not be able to obtain marketing approval for products resulting from our development efforts.

All of the products that we are developing or may develop in the future will require additional research and development, extensive preclinical studies and clinical trials and regulatory approval prior to any commercial sales. This process is lengthy, often taking a number of years, is uncertain and is expensive. Since our inception, we have conducted clinical trials of a number of compounds. In 1997, we determined not to continue clinical development of GEM91, our lead product candidate at the time. Currently, we are conducting clinical trials of IMOxine, our lead IMO drug candidate.

We may need to address a number of technological challenges in order to complete development of our products. Moreover, these products may not be effective in treating any disease or may prove to have undesirable or unintended side effects, unintended alteration of the immune system over time, toxicities or other characteristics that may preclude our obtaining regulatory approval or prevent or limit commercial use.

We are subject to comprehensive regulatory requirements, which are costly and time consuming to comply with; if we fail to comply with these requirements, we could be subject to adverse consequences and penalties.

The testing, manufacturing, labeling, advertising, promotion, export and marketing of our products are subject to extensive regulation by governmental authorities in Europe, the United States and elsewhere throughout the world.

In general, submission of materials requesting permission to conduct clinical trials may not result in authorization by the FDA or any equivalent foreign regulatory agency to commence clinical trials. In addition, submission of an application for marketing approval to the relevant regulatory agency following completion of clinical trials may not result in the regulatory agency approving the application if applicable regulatory criteria are not satisfied, and may result in the regulatory agency requiring additional testing or information.

Any regulatory approval of a product may contain limitations on the indicated uses for which the product may be marketed or requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. Any product for which we obtain marketing approval, along with the facilities at which the product is manufactured, any post-approval clinical data and any advertising and promotional activities for the product will be subject to continual review and periodic inspections by the FDA and other regulatory agencies.

Both before and after approval is obtained, violations of regulatory requirements may result in:

- the regulatory agency’s delay in approving, or refusal to approve, an application for approval of a product;
- restrictions on such products or the manufacturing of such products;
- withdrawal of the products from the market;
- warning letters;
- voluntary or mandatory recall;
- fines;
- suspension or withdrawal of regulatory approvals;
- product seizure;
- refusal to permit the import or export of our products;
- injunctions or the imposition of civil penalties; and
- criminal penalties.

We have only limited experience in regulatory affairs and our products are based on new technologies; these factors may affect our ability or the time we require to obtain necessary regulatory approvals.

We have only limited experience in filing the applications necessary to gain regulatory approvals. Moreover, the products that result from our research and development programs will likely be based on new technologies and new therapeutic approaches that have not been extensively tested in humans. The regulatory requirements governing these types of products may be more rigorous than for conventional drugs. As a result, we may experience a longer regulatory process in connection with obtaining regulatory approvals of any product that we develop.

Risks Relating to Collaborators

We need to establish collaborative relationships in order to succeed.

An important element of our business strategy includes entering into collaborative relationships for the development and commercialization of products based on our discoveries. We face significant competition in seeking appropriate collaborators. Moreover, these arrangements are complex to negotiate and time-consuming to document. We may not be successful in our efforts to establish collaborative relationships or other alternative arrangements.

The success of collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Our collaborators will have significant discretion in determining the efforts and resources that they will apply to these collaborations. The risks that we face in connection with these collaborations include the following:

- disputes may arise in the future with respect to the ownership of rights to technology developed with collaborators;
- disagreements with collaborators could delay or terminate the research, development or commercialization of products, or result in litigation or arbitration;
- we may have difficulty enforcing the contracts if one of our collaborators fails to perform;
- our collaborators may terminate their collaborations with us, which could make it difficult for us to attract new collaborators or adversely affect the perception of us in the business or financial communities;
- collaborators have considerable discretion in electing whether to pursue the development of any additional drugs and may pursue technologies or products either on their own or in collaboration with our competitors that are similar to or competitive with our technologies or products that are the subject of the collaboration with us; and
- our collaborators may change the focus of their development and commercialization efforts. Pharmaceutical and biotechnology companies historically have re-evaluated their priorities following mergers and consolidations, which have been common in recent years in these industries. The ability of our products to reach their potential could be limited if our collaborators decrease or fail to increase spending relating to such products.

Given these risks, it is possible that any collaborative arrangements into which we enter may not be successful. In May 2005, we entered into collaborative arrangements with Novartis involving our IMO technology. Previous collaborative arrangements to which we were a party with F. Hoffmann-La Roche and G.D. Searle & Co, involving our antisense technology, both were terminated prior to the development of any product. The failure of any of our collaborative relationships could delay our drug development or impair commercialization of our products.

Risks Relating to Intellectual Property

If we are unable to obtain patent protection for our discoveries, the value of our technology and products will be adversely affected.

Our patent positions, and those of other drug discovery companies, are generally uncertain and involve complex legal, scientific and factual questions.

Our ability to develop and commercialize drugs depends in significant part on our ability to:

- obtain patents;
- obtain licenses to the proprietary rights of others on commercially reasonable terms;
- operate without infringing upon the proprietary rights of others;
- prevent others from infringing on our proprietary rights; and
- protect trade secrets.

We do not know whether any of our patent applications or those patent applications which we license will result in the issuance of any patents. Our issued patents and those that may issue in the future, or those licensed to us, may be challenged, invalidated or circumvented, and the rights granted thereunder may not provide us proprietary protection or competitive advantages against competitors with similar technology. Furthermore, our competitors may independently develop similar technologies or duplicate any technology developed by us. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that, before any of our products can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thus reducing any advantage of the patent.

Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors can be certain that we or they were the first to make the inventions claimed in issued patents or pending patent applications, or that we or they were the first to file for protection of the inventions set forth in these patent applications.

Third parties may own or control patents or patent applications and require us to seek licenses, which could increase our development and commercialization costs, or prevent us from developing or marketing products.

We may not have rights under some patents or patent applications related to our products. Third parties may own or control these patents and patent applications in the United States and abroad. Therefore, in some cases, to develop, manufacture, sell or import some of our products, we or our collaborators may choose to seek, or be required to seek, licenses under third party patents issued in the United States and abroad or under patents that might issue from United States and foreign patent applications. In such an event, we would be required to pay license fees or royalties or both to the licensor. If licenses are not available to us on acceptable terms, we or our collaborators may not be able to develop, manufacture, sell or import these products.

We may lose our rights to patents, patent applications or technologies of third parties if our licenses from these third parties are terminated. In such an event, we might not be able to develop or commercialize products covered by the licenses.

We are party to ten royalty-bearing license agreements under which we have acquired rights to patents, patent applications and technology of third parties. Under these licenses we are obligated to pay royalties on net sales by us of products or processes covered by a valid claim of a patent or patent application licensed to us. We also are required in some cases to pay a specified percentage of any sublicense income that we may receive. These licenses impose various commercialization, sublicensing, insurance and other obligations on us. Our failure to comply with these requirements could result in termination of the licenses. These licenses generally will otherwise remain in

effect until the expiration of all valid claims of the patents covered by such licenses or upon earlier termination by the parties. The issued patents covered by these licenses expire at various dates ranging from 2006 to 2022. If one or more of these licenses is terminated, we may be delayed in our efforts, or be unable, to develop and market the products that are covered by the applicable license or licenses.

We may become involved in expensive patent litigation or other proceedings, which could result in our incurring substantial costs and expenses or substantial liability for damages or require us to stop our development and commercialization efforts.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the biotechnology industry. We may become a party to various types of patent litigation or other proceedings regarding intellectual property rights from time to time even under circumstances where we are not practicing and do not intend to practice any of the intellectual property involved in the proceedings. For instance, in 2002 and 2003, we became involved in two interference proceedings declared by the United States Patent and Trademark Office, or USPTO, which have since been resolved. In June 2005, we became aware of a third interference declared by the USPTO related to our Ribozyme technology. We are neither practicing nor intending to practice the intellectual property that is associated with any of these interference proceedings.

The cost to us of any patent litigation or other proceeding, including the interferences referred to above, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. If any patent litigation or other proceeding is resolved against us, we or our collaborators may be enjoined from developing, manufacturing, selling or importing our drugs without a license from the other party and we may be held liable for significant damages. We may not be able to obtain any required license on commercially acceptable terms or at all.

Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

Risks Relating to Product Manufacturing, Marketing and Sales and Reliance on Third Parties

Because we have limited manufacturing experience, we are dependent on third-party manufacturers to manufacture products for us. If we cannot rely on third-party manufacturers, we will be required to incur significant costs and devote significant efforts to establish our own manufacturing facilities and capabilities.

We have limited manufacturing experience and no commercial scale manufacturing capabilities. In order to continue to develop our products, apply for regulatory approvals and ultimately commercialize products, we need to develop, contract for or otherwise arrange for the necessary manufacturing capabilities.

We currently rely upon third parties to produce material for preclinical and clinical testing purposes and expect to continue to do so in the future. We also expect to rely upon third parties to produce materials that may be required for the commercial production of our products.

There are a limited number of manufacturers that operate under the FDA's current good manufacturing practices regulations capable of manufacturing our products. As a result, we may have difficulty finding manufacturers for our products with adequate capacity for our needs. If we are unable to arrange for third party manufacturing of our products on a timely basis, or to do so on commercially reasonable terms, we may not be able to complete development of our products or market them.

Reliance on third party manufacturers entails risks to which we would not be subject if we manufactured products ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance,

- the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control,
- the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us,
- the potential that third party manufacturers will develop know-how owned by such third party in connection with the production of our products that is necessary for the manufacture of our products, and
- reliance upon third party manufacturers to assist us in preventing inadvertent disclosure or theft of our proprietary knowledge.

We purchased oligonucleotides for preclinical and clinical testing from Avecia Biotechnology at a preferential price under a supply agreement, which expired in March 2004. We have continued to purchase all of the oligonucleotides we are using in our ongoing clinical trials and pre-clinical testing from Avecia. The terms of the agreement have been extended until such time as a new agreement is negotiated. If Avecia determines not to accept any purchase order for oligonucleotides or we are unable to enter into a new manufacturing arrangement with Avecia or a new contract manufacturer on a timely basis or at all, our ability to supply the product needed for our clinical trials could be materially impaired.

We have no experience selling, marketing or distributing products and no internal capability to do so.

If we receive regulatory approval to commence commercial sales of any of our products, we will face competition with respect to commercial sales, marketing and distribution. These are areas in which we have no experience. To market any of our products directly, we would need to develop a marketing and sales force with technical expertise and with supporting distribution capability. In particular, we would need to recruit a large number of experienced marketing and sales personnel. Alternatively, we could engage a pharmaceutical or other healthcare company with an existing distribution system and direct sales force to assist us. However, to the extent we entered into such arrangements, we would be dependent on the efforts of third parties. If we are unable to establish sales and distribution capabilities, whether internally or in reliance on third parties, our business would suffer materially.

If third parties on whom we rely for clinical trials do not perform as contractually required or as we expect, we may not be able to obtain regulatory approval for or commercialize our products and our business may suffer.

We do not have the ability to independently conduct the clinical trials required to obtain regulatory approval for our products. We depend on independent clinical investigators, contract research organizations and other third party service providers in the conduct of the clinical trials of our products and expect to continue to do so. For example, we have contracted with PAREXEL International to manage our Phase 2 clinical trials of IMOxine. We rely heavily on these parties for successful execution of our clinical trials, but do not control many aspects of their activities. We are responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with standards, commonly referred to as good clinical practices, for conducting, recording and reporting clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Third parties may not complete activities on schedule or may not conduct our clinical trials in accordance with regulatory requirements or our stated protocols. The failure of these third parties to carry out their obligations could delay or prevent the development, approval and commercialization of our products. If we seek to conduct any of these activities ourselves in the future, we will need to recruit appropriately trained personnel and add to our infrastructure.

If we are unable to obtain adequate reimbursement from third party payors for any products that we may develop or acceptable prices for those products, our revenues and prospects for profitability will suffer.

Most patients will rely on Medicare and Medicaid, private health insurers and other third party payors to pay for their medical needs, including any drugs we may market. If third party payors do not provide adequate coverage or reimbursement for any products that we may develop, our revenues and prospects for profitability will suffer. Congress recently enacted a limited prescription drug benefit for Medicare recipients in the Medicare Prescription Drug and Modernization Act of 2003. While the program established by this statute may increase demand for our products, if we participate in this program, our prices will be negotiated with drug procurement organizations for Medicare beneficiaries and are likely to be lower than we might otherwise obtain. Non-Medicare third party drug procurement organizations may also base the price they are willing to pay on the rate paid by drug procurement organizations for Medicare beneficiaries.

A primary trend in the United States healthcare industry is toward cost containment. In addition, in some foreign countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take six to 12 months or longer after the receipt of regulatory marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost effectiveness of our product candidates or products to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in commercialization of our products.

Third party payors are challenging the prices charged for medical products and services, and many third party payors limit reimbursement for newly-approved healthcare products. In particular, third party payors may limit the indications for which they will reimburse patients who use any products that we may develop. Cost control initiatives could decrease the price we might establish for products that we may develop, which would result in lower product revenues to us.

We face a risk of product liability claims and may not be able to obtain insurance.

Our business exposes us to the risk of product liability claims that is inherent in the manufacturing, testing and marketing of human therapeutic drugs. Although we have product liability and clinical trial liability insurance that we believe is adequate, this insurance is subject to deductibles and coverage limitations. We may not be able to obtain or maintain adequate protection against potential liabilities. If we are unable to obtain insurance at acceptable cost or otherwise protect against potential product liability claims, we will be exposed to significant liabilities, which may materially and adversely affect our business and financial position. These liabilities could prevent or interfere with our commercialization efforts.

Risks Relating to an Investment in Our Common Stock

Our corporate governance structure, including provisions in our certificate of incorporation and by-laws, our stockholder rights plan and Delaware law, may prevent a change in control or management that stockholders may consider desirable.

Section 203 of the Delaware General Corporation Law and our certificate of incorporation, by-laws and stockholder rights plan contain provisions that might enable our management to resist a takeover of our company or discourage a third party from attempting to take over our company. These provisions include:

- a classified board of directors,
- limitations on the removal of directors,
- limitations on stockholder proposals at meetings of stockholders,
- the inability of stockholders to act by written consent or to call special meetings, and
- the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval.

These provisions could have the effect of delaying, deferring, or preventing a change in control of us or a change in our management that stockholders may consider favorable or beneficial. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors and take other corporate actions. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock.

Our stock price has been and may in the future be extremely volatile. In addition, because an active trading market for our common stock has not developed, our investors' ability to trade our common stock may be limited. As a result, investors may lose all or a significant portion of their investment.

Our stock price has been volatile. During the period from January 1, 2003 to June 30, 2005, the closing sales price of our common stock ranged from a high of $1.69 per share to a low of $0.41 per share. The stock market has also experienced significant price and volume fluctuations, and the market prices of biotechnology companies in particular have been highly volatile, often for reasons that have been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

- results of clinical trials of our product candidates or those of our competitors;
- the regulatory status of our product candidates;
- failure of any of our product candidates, if approved, to achieve commercial success;
- the success of competitive products or technologies;
- regulatory developments in the United States and foreign countries;
- developments or disputes concerning patents or other proprietary rights;
- the departure of key personnel;
- variations in our financial results or those of companies that are perceived to be similar to us;
- our cash resources;
- the terms of any financing conducted by us;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors and issuance of new or changed securities analysts' reports or recommendations; and
- general economic, industry and market conditions.

In addition, our common stock has historically been traded at low volume levels and may continue to trade at low volume levels. As a result, any large purchase or sale of our common stock could have a significant impact on the price of our common stock and it may be difficult for investors to sell our common stock in the market without depressing the market price for the common stock or at all.

As a result of the foregoing, investors may not be able to resell their shares at or above the price they paid for such shares. Investors in our common stock must be willing to bear the risk of fluctuations in the price of our common stock and the risk that the value of their investment in our stock could decline.

We may be unable to repay our 4% convertible subordinated notes when due or to repurchase the convertible subordinated notes if we are required to do so under the terms of our agreement with the holders of the 4% convertible subordinated notes.

In May 2005, we sold approximately $5.0 million in principal amount of 4% convertible subordinated notes. On April 30, 2008, the entire outstanding principal amount of our 4% convertible subordinated notes will become due and payable. In addition, we may be required to redeem all or part of the convertible subordinated notes prior to the final maturity date if specified events occur. We may not have sufficient funds or may be unable to arrange for additional financing to pay the amount due under the convertible subordinated notes at maturity or to pay the price to repurchase the convertible subordinated notes. Any future borrowing arrangements or debt agreements to which we may become a party may restrict or prohibit us from repaying or repurchasing the convertible subordinated notes. If we are prohibited from repaying or repurchasing the convertible subordinated notes, we could try to obtain the consent of lenders under those arrangements, or we could attempt to refinance the indebtedness that contains the restrictions. If we could not obtain the necessary consents or refinance the indebtedness, we would be unable to repay or repurchase the convertible subordinated notes. Any such failure would constitute an event of default under the agreement with the holders of the 4% convertible subordinated notes, which could, in turn, constitute a default under the terms of any future indebtedness.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Historically, our primary exposures have been related to nondollar-denominated operating expenses in Europe. As of June 30, 2005, we have no assets and liabilities related to nondollar-denominated currencies.

We maintain investments in accordance with our investment policy. The primary objectives of our investment activities are to preserve principal, maintain proper liquidity to meet operating needs and maximize yields. Although our investments are subject to credit risk, our investment policy specifies credit quality standards for our investments and limits the amount of credit exposure from any single issue, issuer or type of investments. We do not own derivative financial investment instruments in our investment portfolio.

Based on a hypothetical ten percent adverse movement in interest rates, the potential losses in future earnings, fair value of risk sensitive financial instruments, and cash flows are immaterial, although the actual effects may differ materially from the hypothetical analysis.

ITEM 4. CONTROLS AND PROCEDURES

(a) *Evaluation of Disclosure Controls and Procedures.* Our management, with the participation of our chief executive officer and our chief financial officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2005. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2005, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

(b) *Changes in Internal Controls*. No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act) occurred during the fiscal quarter ended June 30, 2005 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

HYBRIDON, INC.

PART II

OTHER INFORMATION

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

On June 15, 2005, the following proposals were voted on and approved at the annual meeting of stockholders:

Proposal	For	Against/Withheld	Abstain	Broker Non-Votes
To elect Mr. C. Keith Hartley to serve as a Class I Director until the 2008 annual meeting of stockholders	79,951,724	10,151,838	—	—
To elect Mr. William S. Reardon to serve as a Class I Director until the 2008 annual meeting of stockholders	80,890,833	9,212,729	—	—
To approve an amendment to the Company's Restated Certificate of Incorporation increasing the number of authorized shares of the Company's Common Stock from 185,000,000 to 200,000,000	87,005,977	3,025,866	71,917	—
To approve the 2005 Stock Incentive Plan	51,382,778	8,851,413	350,958	—

In addition to the two directors listed above who were elected at the meeting, the terms of the following directors continued after the meeting: Dr. Sudhir Agrawal, Mr. Youssef El Zein, Dr. Alison Taunton-Rigby, Dr. James B. Wyngaarden and Dr. Paul C. Zamecnik. On June 15, 2005, the Board elected Dr. Robert W. Karr as a Class II Director until the 2006 annual meeting of stockholders.

ITEM 6. EXHIBITS

The list of Exhibits filed as part of this Quarterly Report on Form 10-Q are set forth on the Exhibit Index immediately preceding such Exhibits, and is incorporated herein by this reference.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

HYBRIDON, INC

Date: August 5, 2005

/s/ Sudhir Agrawal

Sudhir Agrawal
President, Chief Executive Officer, Chief Scientific Officer and Director
(Principal Executive Officer)

Date: August 5, 2005

/s/ Robert G. Andersen

Robert G. Andersen
Chief Financial Officer and Vice President of Operations
(Principal Financial and Accounting Officer)

Exhibit Index

Exhibit No.	
3.1	Restated Certificate of Incorporation of Hybridon Inc., as amended.
10.1+	Research Collaboration and Option Agreement, dated as of May 31, 2005, by and between Hybridon, Inc. and Novartis International Pharmaceutical Ltd.
10.2+	License Development and Commercialization Agreement, dated as of May 31, 2005, by and between Hybridon, Inc. and Novartis International Pharmaceutical Ltd.
10.3 (1)	2005 Stock Incentive Plan.
10.4 (1)	Form of Incentive Stock Option Agreement for grants under the 2005 Stock Incentive Plan.
10.5 (1)	Form of Nonstatutory Stock Option Agreement for grants under the 2005 Stock Incentive Plan.
10.6	Engagement Letter, between Hybridon, Inc. and Pillar Investment Limited, dated May 20, 2005.
10.7	Noteholders Agreement, among Hybridon, Inc. and the Noteholders, dated May 20, 2005, including form of 4% Note.
10.8	Registration Rights Agreement, by and Among Hybridon, Inc., Pillar Investment Limited and the investors named therein, dated May 20, 2005.
10.9	Warrants to purchase Common Stock issued by Hybridon, Inc. to Pillar Investment Limited, dated May 24, 2005.
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

+ Confidential treatment requested as to certain portions, which portions have been separately filed with the Securities and Exchange Commission.

(1) Incorporated by reference to the Exhibits to the Registrant's Current Report on Form 8-K dated June 21, 2005 (File No. 001-31918).

Exhibit 3.1

RESTATED

CERTIFICATE OF INCORPORATION

OF

HYBRIDON, INC.

Hybridon, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

1. The Corporation filed its original Certificate of Incorporation with the Secretary of State of Delaware on May 25, 1989, which Certificate of Incorporation was amended by a Certificate of Amendment of Certificate of Incorporation filed on February 21, 1990, and amended and restated by a Restated Certificate of Incorporation filed on June 5, 1990. A Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on November 20, 1990, which Restated Certificate of Incorporation was amended by a Certificate of Amendment of Restated Certificate of Incorporation filed on October 16, 1991, a Certificate of Amendment of Restated Certificate of Incorporation filed on March 3, 1992, a Certificate of Amendment of Restated Certificate of Incorporation filed on March 23, 1992, a Certificate of Amendment of Restated Certificate of Incorporation filed on October 23, 1992, a Certificate of Amendment of Restated Certificate of Incorporation filed on February 12, 1993, a Certificate of Amendment of Restated Certificate of Incorporation filed on June 17, 1993, a Certificate

of Amendment of Restated Certificate of Incorporation filed on July 13, 1993, a Certificate of Amendment of Restated Certificate of Incorporation filed on September 9, 1994, a Certificate of Amendment of Restated Certificate of Incorporation filed on July 7, 1995, a Certificate of Amendment of Restated Certificate of Incorporation filed on December 19, 1995, and a Certificate of Retirement of Stock filed on even date herewith.

2. At a meeting of the Board of Directors of the Corporation, a resolution was duly adopted, pursuant to Sections 141(f) and 245 of the General Corporation Law of the State of Delaware, setting forth a Restated Certificate of Incorporation of the Corporation and declaring said Restated Certificate of Incorporation advisable. The resolution setting forth the Restated Certificate of Incorporation is as follows:

RESOLVED: That the Restated Certificate of Incorporation of the Corporation, as amended, be and hereby is amended and restated in its entirety so that the same shall read as follows:

FIRST. The name of the Corporation is:

Hybridon, Inc.

SECOND. The address of its registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, County of New Castle. The name of its registered agent at such address is The Corporation Trust Company.

THIRD. The nature of the business or purposes to be conducted or promoted by the Corporation is as follows:

To engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of Delaware.

FOURTH. The total number of shares of all classes of stock which the Corporation shall have authority to issues is One Hundred Million (100,000,000) shares of Common Stock, $.001 par value per share ("Common Stock"), and (ii) Five Million ($5,000,000)shares of Preferred Stock, $.01 par value per share ("Preferred Stock"), which may be issued from time to time in one or more series as set forth in Part B of this Articles FOURTH.

The following is a statement of the designations and the powers,

privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK.

1. GENERAL. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights of the holders of the Preferred Stock of any series as may be designated by the Board of Directors upon any issuance of the Preferred Stock of any series.

2. VOTING. The holders of the Common Stock are entitled to one vote for each share held at all meetings of stockholders (and written actions in lieu of meetings). There shall be no cumulative voting.

The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law of Delaware.

3. DIVIDENDS. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor as and when determined by the Board of Directors and subject to any preferential dividend rights of any then outstanding Preferred Stock.

4. LIQUIDATION. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to any preferential rights of any then outstanding Preferred Stock.

B. PREFERRED STOCK.

Preferred Stock may be issued from time to time in one or more series, each of such series to have such terms as stated or expressed herein and in the resolution or resolutions providing for the issue of such series adopted by the Board of Directors of the Corporation as hereinafter provided. Any shares of Preferred Stock which may be redeemed, purchased or acquired by the Corporation may be reissued except as otherwise provided by law. Different series of Preferred Stock shall not be construed to constitute different classes of shares for the purposes of voting by classes unless expressly provided.

Authority is hereby expressly granted to the Board of Directors from time to time to issue the Preferred Stock in one or more series, and in connection with the creation of any such series, by resolution or resolutions providing for the issue of the shares thereof, to determine and fix such voting powers, full or limited, or no voting powers, and such designations, preferences and relative participating, optional or other special rights, and qualifications, limitations or restrictions thereof, including without limitation thereof, dividend rights, conversion rights, redemption privileges and liquidation preferences, as shall be stated and expressed in such resolutions, all to the full extent now or hereafter permitted by the General Corporation Law of Delaware. Without limiting the generality of the foregoing, the resolutions providing for issuance of any series of Preferred Stock may provide that such series shall be superior or rank equally or be junior to the Preferred Stock of any other series to the extent permitted by law. Except as otherwise specifically provided in this Certificate of Incorporation, no vote of the holders of the Preferred Stock or Common Stock shall be a prerequisite to the issuance of any shares of any series of the Preferred Stock authorized by and complying with the conditions of the Certificate of Incorporation, the right to have such vote being expressly waived by all present and future holders of the capital stock of the Corporation.

FIFTH. The name and mailing address of the sole incorporator are as follows:

NAME	MAILING ADDRESS

SIXTH. In furtherance of and not in limitation of powers conferred by statute, it is further provided:

1. Election of directors need not be by written ballot.

2. The Board of Directors is expressly authorized to adopt, amend or repeal the By-Laws of the Corporation.

SEVENTH. Whenever a compromise or arrangement is proposed between this corporation and its creditors or any class of them and/or between this corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this corporation or of any creditor or stockholder thereof, or on the application of any receiver or receivers appointed for this corporation under the provisions of section 291 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for this corporation under the provisions of section 279 of Title 8 of the Delaware Code order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this corporation, as the case may be, agree to any compromise or arrangement and to any promise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this corporation, as the case may be, and also on this corporation.

EIGHTH. Except to the extent that the General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability. No amendment to or repeal of this provision shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment.

NINTH. 1. ACTION, SUITS AND PROCEEDINGS OTHER THAN BY OR IN THE RIGHT OF THE CORPORATION. The Corporation shall indemnify each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation), by reason of the fact that he is or was, or has

agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan) (all such persons being referred to hereafter as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) judgment, fines and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with such action, suit or proceeding and any appeal therefrom, if he acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction or upon a plea of NOLO CONTENDERE or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which he reasonably believed to be in, or not opposed to, the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his conduct was unlawful. Notwithstanding anything to the contrary in this Article, except as set forth in Section 6 below, the Corporation shall not indemnify an Indemnitee seeking indemnification in connection with a proceeding (or part

thereof) initiated by the Indemnitee unless the initiation thereof was approved by the Board of Directors of the Corporation.

2. ACTIONS OR SUITS BY OR IN THE RIGHT OF THE CORPORATION. The Corporation shall indemnify any Indemnitee who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that he is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with such action, suit or proceeding and any appeal therefrom, if he acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the best interests of the Corporation, except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation unless and only to the extent that the Court of Chancery of Delaware or

the court in which such action or suit was brought shall determine upon application that, despite the adjudication of such liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses (including attorneys' fees) which the Court of Chancery of Delaware or such other court shall deem proper.

3. INDEMNIFICATION FOR EXPENSES OF SUCCESSFUL PARTY. Notwithstanding the other provisions of this Article, to the extent that an Indemnitee has been successful, on the merits or otherwise, in defense of any action, suit or proceeding referred to in Sections 1 and 2 of this Article, or in defense of any claim, issue or matter therein, or on appeal from any such action, suit or proceeding, he shall be indemnified against all expenses (including attorneys' fees) actually and reasonably incurred by him or on his behalf in connection therewith. Without limiting the foregoing, if any action, suit or proceeding is disposed of, on the merits or otherwise (including a disposition without prejudice), without (i) the disposition being adverse to the Indemnitee, (ii) an adjudication that the Indemnitee was liable to the Corporation, (iii) a plea of guilty or NOLO CONTENDERE by the Indemnitee, (iv) an adjudication that the Indemnitee did not act in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the Corporation, and (v) with respect to any criminal proceeding, an adjudication that the Indemnitee had reasonable cause to believe his conduct was unlawful, the Indemnitee shall be considered for the purposes hereof to have been wholly successful with respect thereto.

4. NOTIFICATION AND DEFENSE OF CLAIM. As a condition precedent to his right to be indemnified, the Indemnitee must notify the Corporation in writing as soon as practicable of any action, suit, proceeding or investigation involving him for which indemnity will or could be sought. With respect to any action, suit, proceeding or investigation of which the Corporation is so notified, the Corporation will be entitled to participate therein at its own expense and/or to assume the defense thereof at its own expense, with legal counsel reasonably acceptable to the Indemnitee. After notice from the Corporation to the Indemnitee of its election so to assume such defense, the Corporation shall not be liable to the Indemnitee for any legal or other expenses subsequently incurred by the Indemnitee in connection with such claim, other than as provided below in this Section 4. The Indemnitee shall have the right to employ his own counsel in connection with such claim, but the fees and expenses of such counsel incurred after notice from the Corporation of its assumption of the defense thereof shall be at the expense of the Indemnitee unless (i) the employment of counsel by the Indemnitee has been authorized by the Corporation, (ii) counsel to the Indemnitee shall have reasonably concluded that there may be a

conflict of interest or position on any significant issue between the Corporation and the Indemnitee in the conduct of the defense of such action or (iii) the Corporation shall not in fact have employed counsel to assume the defense of such action, in each of which cases the fees and expenses of counsel for the Indemnitee shall be at the expense of the Corporation, except as

otherwise expressly provided by this Article. The Corporation shall not be entitled, without the consent of the Indemnitee, to assume the defense of any claim brought by or in the right of the Corporation or as to which counsel for the Indemnitee shall have reasonably made the conclusion provided for in clause (ii) above.

5. ADVANCE OF EXPENSES. Subject to the provisions of Section 6 below, in the event that the Corporation does not assume the defense pursuant to Section 4 of this Article of any action, suit, proceeding or investigation of which the Corporation receives notice under this Article, any expenses (including attorneys' fees) incurred by an Indemnitee in defending a civil or criminal action, suit, proceeding or investigation or any appeal therefrom shall be paid by the Corporation in advance of the final disposition of such matter, PROVIDED, HOWEVER, that the payment of such expense incurred by an Indemnitee in advance of the final disposition of such matter shall be made only upon receipt of an undertaking by or on behalf of the Indemnitee to repay all amounts so advanced in the event that it shall ultimately be determined that the Indemnitee is not entitled to be indemnified by the Corporation as authorized in this Article. Such undertaking may be accepted without reference to the financial ability of such person to make such repayment.

6. PROCEDURE FOR INDEMNIFICATION. In order to obtain indemnification or advancement of expenses pursuant to Section 1, 2, 3 or 5 of this Article, the Indemnitee shall submit to the Corporation a written request, including in such request such documentation and information as is reasonably available to the Indemnitee and is reasonably necessary to determine whether and to what extent the Indemnitee is entitled to indemnification or advancement of expenses. Any such indemnification or advancement of expenses shall be made promptly, and in any event within 60 days after receipt by the Corporation of the written request of the Indemnitee, unless with respect to requests under Section 1, 2 or 5 the Corporation determines, by clear and convincing evidence, within such 60-day period that the Indemnitee did not meet the applicable standard of conduct set forth in Section 1 or 2, as the case may be. Such determination shall be made in each instance by (a) a majority vote of a quorum of the directors of the Corporation consisting of persons who are not at that time parties to the action, suit or proceeding in question ("disinterested directors'), (b) if no such quorum is obtainable, a majority vote of a committee of two or more disinterested directors,

(c) a majority vote of a quorum of the outstanding shares of stock of all classes entitled to vote for directors, voting as a single class, which quorum shall consist of stockholders who are not at that time parties to the action, suit or proceeding in question, (d) independent legal counsel (who may be regular legal counsel to the Corporation), or (e) a court of competent jurisdiction.

7. REMEDIES. The right to indemnification or advances as granted by this Article shall be enforceable by the Indemnitee in any court of competent jurisdiction if the Corporation denies such request, in whole or in part, or if no disposition thereof is made within the 60-day period referred to above in Section 6. Unless otherwise provided by law, the burden of proving that the Indemnitee is not entitled to indemnification or advanced of expenses under this Article shall be on the Corporation. Neither the failure of the Corporation to have made a determination prior to the commencement of such action that indemnification is proper in the circumstances because the Indemnitee has met the applicable standard of conduct, nor an actual determination by the Corporation pursuant to Section 6 that the Indemnitee has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that the Indemnitee has not met the applicable standard of conduct. The Indemnitee's expenses (including attorneys' fees) incurred in connection with successfully establishing his right to indemnification, in whole or in part, in any such proceeding shall also be indemnified by the Corporation.

8. SUBSEQUENT AMENDMENT. No amendment, termination or repeal of this Article or of the relevant provisions of the General Corporation Law of Delaware or any other applicable laws shall affect or diminish in any way the rights of any Indemnitee to indemnification under the provisions hereof with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the final adoption of such amendment, termination or repeal.

9. OTHER RIGHTS. The indemnification and advancement of expenses provided by this Article shall not be deemed exclusive of any other rights to

which an Indemnitee seeking indemnification or advancement of expenses may be entitled under any law (common or statutory), agreement or vote of stockholders or disinterested directors or otherwise, both as to action in his official capacity and as to action in any other capacity while holding office for the Corporation, and shall continue as to an Indemnitee who has ceased to be a director or officer, and shall inure to the benefit of the estate, heirs, executors and administrators of the Indemnitee. Nothing contained in this Article shall be deemed to prohibit, and the Corporation is specifically authorized to enter into, agreements with officers and directors providing

indemnification rights and procedures different from those set forth in this Article. In addition, the Corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article.

10. PARTIAL INDEMNIFICATION. If an Indemnitee is entitled under any provision of this Article to indemnification by the Corporation for some or a portion of the expenses (including attorneys' fees), judgments, fines or amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with any action, suit, proceeding or investigation and any appeal, therefrom but not, however, for the total amount thereof, the Corporation shall nevertheless indemnify the Indemnitee for the portion of such expenses (including attorneys' fees), judgments, fines or amounts paid in settlement to which the Indemnitee is entitled.

11. INSURANCE. The Corporation may purchase and maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan) against any expense, liability or loss incurred by him in any such capacity, or arising out of his status as such, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the General Corporation law of Delaware.

12. MERGER OR CONSOLIDATION. If the Corporation is merged into or consolidated with another corporation and the Corporation is not the surviving corporation, the surviving corporation shall assume the obligations of the Corporation under this Article with respect to any action, suit, proceeding or investigation arising out of or relating to any actions, transactions or facts occurring prior to the date of such merger or consolidation.

13. SAVINGS CLAUSE. If this Article or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each Indemnitee as to any expenses (including attorneys' fees) judgments, fines and amounts paid in settlement in connection with any action, suit, proceeding or investigation, whether civil, criminal or administrative, including an action by or in the right of the Corporation, to the fullest extent permitted by any applicable portion of this Article that shall not have been invalidated and to the fullest extent permitted by applicable law.

14. DEFINITIONS. Terms used herein and defined in Section 145(h) and Section 145(i) of the General Corporation Law of Delaware shall have the respective meanings assigned to such terms in such Section 145(h) and Section 145(i).

15. SUBSEQUENT LEGISLATION. If the General Corporation Law of Delaware is amended after adoption of this Article to expand further the indemnification permitted to Indemnitees, then the Corporation shall indemnify such persons to the fullest extent permitted by the General Corporation Law of Delaware, as so amended.

TENTH. The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Restated Certificate of Incorporation, in the manner now or hereafter prescribed by statute and this Restated Certificate of Incorporation, and all rights conferred upon stockholders herein are granted subject to this reservation.

ELEVENTH. This Article is inserted for the management of the business

and for the conduct of the affairs of the Corporation and shall not become effective until the closing of the sale of shares of Common Stock in an underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $10,000,000 of gross proceeds to the Corporation (a "Public Offering").

1. NUMBER OF DIRECTORS. The number of directors of the Corporation shall not be less than three. The exact number of directors within the limitations specified in the preceding sentence shall be fixed from time to time by, or in the manner provided in, the Corporation's By-Laws.

2. CLASSES OF DIRECTORS. The Board of Directors shall be and is divided into three classes: Class I, Class II and Class III. No one class shall have more than one director more than any other class. If a fraction is contained in the quotient arrived at by dividing the designated number of directors by three, then, if such fraction is one-third, the extra director shall be a member of Class II, and if such fraction is two-thirds, one of the extra directors shall be a member of Class I and one of the extra directors shall be a member of Class II, unless otherwise provided from time to time by resolution adopted by the Board of Directors.

3. ELECTION OF DIRECTORS. Elections of directors need not be by written ballot except as and to the extent provided in the By-Laws of the Corporation.

4. TERMS OF OFFICE. Each director shall serve for a term ending on the date of the third annual meeting following the annual meeting at which such director was elected; PROVIDED, that each initial director in Class I shall serve for a term ending on the date of the annual meeting in 1996; each initial director in Class II shall serve for a term ending on the date of the annual meeting in 1997; and each initial director in Class III shall serve for a term ending on the date of the annual meeting in 1998; and PROVIDED FURTHER, that the term of each director shall be subject to the election and qualification of his successor and to his earlier death, resignation or removal.

5. ALLOCATION OF DIRECTORS AMONG CLASSES IN THE EVENT OF INCREASES OR DECREASES IN THE NUMBER OF DIRECTORS. In the event of any increase or decrease in the authorized number of directors, (i) each director then serving as such shall nevertheless continue as a director of the class of which he is a member and (ii) the newly created or eliminated directorships resulting from such increase or decrease shall be apportioned by the Board of Directors among the three classes of directors so as to ensure that no one class has more than one director more than any other class. To the extent possible, consistent with the foregoing rule, any newly created directorships shall be added to those classes whose terms of office are to expire at the latest dates following such allocation, and any newly eliminated directorships shall be subtracted from those classes whose terms of offices are to expire at the earliest dates following such allocation, unless otherwise provided from time to time by resolution adopted by the Board of Directors.

6. QUORUM; ACTION AT MEETING. A majority of the directors at any time in office shall constitute a quorum for the transaction of business. In the event one or more of the directors shall be disqualified to vote at any meeting, then the required quorum shall be reduced by one for each director so disqualified, provided that in no case shall less than one-third of the number of directors fixed pursuant to Section 1 above constitute a quorum. If at any meeting of the Board of Directors there shall be less than such a quorum, a majority of those present may adjourn the meeting from time to time. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the Board of Directors unless a greater number is required by law, by the By-Laws of the Corporation or by this Restated Certificate of Incorporation.

7. REMOVAL. Directors of the Corporation may be removed only for cause by the affirmative vote of the holders of at least two-thirds of the shares of the capital stock of the Corporation issued and outstanding and entitled to vote.

8. VACANCIES. Any vacancy in the Board of Directors, however occurring, including a vacancy resulting from an enlargement of the board, shall be filled only by a vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director. A director elected to fill a vacancy

shall be elected to hold office until the next election of the class for which such director shall have been chosen, subject to the election and qualification of his successor and to his earlier death, resignation or removal.

9. STOCKHOLDER NOMINATIONS AND INTRODUCTION OF BUSINESS, ETC. Advance notice of stockholder nominations for election of directors and other business to be brought by stockholders before a meeting of stockholders shall be given in the manner provided by the By-Laws of the Corporation.

10. AMENDMENTS TO ARTICLE. Notwithstanding any other provisions of law, this Restated Certificate of Incorporation or the By-Laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the shares of capital stock of the Corporation issued and outstanding and entitled to vote shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article ELEVENTH.

TWELFTH. Until the closing of a Public Offering, any action which is required to be taken or which may be taken at any annual or special meeting of stockholders of the Corporation may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, is signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote on such action were present and voted. Effective upon the closing of a Public Offering, stockholders of the Corporation may not take any action by written consent in lieu of a meeting. Notwithstanding any other provisions of law, the Restated Certificate of Incorporation or the By-Laws of the Corporation, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the shares of capital stock of the Corporation issued and outstanding and entitled to vote shall be required to amend or repeal, or to adopt any provision inconsistent with, this Article TWELFTH.

THIRTEENTH. Effective upon the closing of a Public Offering, special meetings of stockholders may be called at any time by only the Chief Executive Officer (or if there is no Chief Executive Officer, the President) or the Board of Directors. Business transacted at any special meeting of stockholders shall be limited

to matters relating to the purpose or purposes stated in the notice of meeting. Notwithstanding any other provision of law, this Restated Certificate of Incorporation or the By-Laws of the Corporation, as amended, and notwithstanding the fact that a lesser percentage may be specified by law, the affirmative vote of the holders of at least seventy-five percent (75%) of the shares of capital stock of the Corporation issued and outstanding and entitled to vote shall be required to amend or repeal, or to adopt any provision inconsistent with this Article THIRTEENTH.

IN WITNESS WHEREOF, the Corporation has caused its corporate seal to be affixed hereto and this Restated Certificate of Incorporation to be signed by its Chairman this 28TH March, 1996.

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead, III

Chairman

[Corporate Seal]

CERTIFICATE OF AMENDMENT
OF
RESTATED
CERTIFICATE OF INCORPORATION
OF HYBRIDON, INC.

Pursuant to Section 242 of the General

Corporation Law of the State of Delaware

HYBRIDON, INC. (the "Corporation"), organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

By written action of the Board of Directors of the Corporation, dated October 20, 1997, the Board of Directors duly adopted resolutions pursuant to Sections 141(f) and 242 of the General Corporation Law of the State of Delaware setting forth an amendment to the Restated Certificate of Incorporation of the Corporation, as amended, and declaring said amendment to be advisable. The stockholders of the Corporation duly approved, pursuant to said Section 242, said proposed amendment at a Special Meeting of Stockholders held on November 18, 1997. The resolution setting forth the amendment to the Restated Certificate of Incorporation is as follows:

RESOLVED: That, subject to stockholder approval, the following paragraph be inserted prior to the first paragraph of Article FOURTH of the Certificate of Incorporation:

"That upon the filing date of the Certificate of Amendment of Restated Certificate of Incorporation of the Corporation (the "Effective Date"), a one-for-five reverse split of the Corporation's Common Stock (as defined below) shall become effective, such that each five shares of Common Stock outstanding and held of record by each stockholder of the Corporation (including treasury shares)

immediately prior to the Effective Date shall represent one share of Common Stock from and after the Effective Date."

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be executed by its Chairman of the Board of Directors, President and Chief Executive Officer this 10th day of December, 1997.

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead, III

E. Andrews Grinstead, III
Chairman of the Board of Directors,
President and Chief Executive Officer

CERTIFICATE OF DESIGNATION

for

SERIES A CONVERTIBLE PREFERRED STOCK

of

HYBRIDON, INC.

Pursuant to Section 151 of the
General Corporation Law of the State of Delaware

HYBRIDON INC., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), does hereby certify that pursuant to the authority conferred on the board of directors of the Corporation (the "Board of Directors") by the Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation") of the Corporation and in accordance with Section 151 of the General Corporation Law of the State of Delaware, the Board of Directors adopted the following resolution establishing a series of 1,500,000 shares of preferred stock of the Corporation designated as "Series A Convertible Preferred Stock":

RESOLVED, that pursuant to the authority conferred on the

Board of Directors by the Certificate of Incorporation, a series of preferred stock, par value $.01 per share, of the Corporation is hereby established and created, and that the designation and number of shares thereof and the voting and other powers, preferences and relative participating, optional or other special rights of, the shares of such series and the qualifications, limitations and restrictions thereof are as follows:

Series A Convertible Preferred Stock

1. Designation and Amount and Definitions. (a) There shall be a series of Preferred Stock designated as "Series A Convertible Preferred Stock" and the number of shares constituting such series shall be 1,500,000. Such series is referred to herein as the "Series A Preferred Stock". Notwithstanding any other provision in this Certificate of Designation of the Series A Preferred Stock (the "Certificate of Designation") to the contrary, such series shall be senior to the common stock, par value $.001 per share of the Corporation (the "Common Stock") with respect to dividends and the distribution of assets upon liquidation, dissolution or winding up. Such number of shares may be increased or decreased by resolution of the Board of Directors, subject to the provisions of Section 7 hereof; provided, however, that no decrease shall reduce the number of shares of Series A Preferred Stock to fewer than the number of shares then issued and outstanding.

(b) As used in this Certificate of Designation, except as otherwise provided in Subsection 4(c), the following terms shall have the following meanings:

(i) The "Closing Bid Price" for any security for each trading day shall be the reported per share closing bid price of such security regular way on the Stock Market on such trading day, or, if there were no transactions on such trading day, the average of the reported closing bid and asked prices, regular way, of such security on the relevant Stock Market on such trading day.

(ii) "Fair Market Value" of any asset (including any security) means the fair market value thereof as mutually determined by the Corporation and the holders of a majority of the Series A Preferred Stock then outstanding. If the Corporation and the holders of a majority of the Series A Preferred Stock then outstanding are unable to reach agreement on any valuation matter, such valuation shall be submitted to and determined by a nationally recognized independent investment bank selected by the Board of Directors and the holders of a majority of the Series A Preferred Stock then outstanding (or, if such selection cannot be agreed upon promptly, or in any event within ten days, then such valuation shall be made by a nationally recognized independent investment banking firm selected by the American Arbitration Association in New York City in accordance with its rules), the costs of which valuation shall be paid for by the Corporation.

(iii) "Market Price" shall mean the average Closing Bid Price for twenty (20) consecutive trading days, ending with the trading day prior to the date as of which the Market Price is being determined (with appropriate adjustments for subdivisions or combinations of shares effected during such period), provided that if the prices referred to in the definition of Closing Bid Price cannot be determined on any trading day, the Closing Bid Price for such trading day will be deemed to equal Fair Market Value of such security on such trading day.

(iv) "Registered Holders" shall mean, at any time, the holders of record of the Series A Preferred Stock.

(v) The "Stock Market" shall mean, with respect to any security, the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, shall mean The Nasdaq National Market System ("NNM") or The Nasdaq SmallCap Market ("SCM" and, together with NNM, "Nasdaq") or, if such security is not

quoted on Nasdaq, shall mean the OTC Bulletin Board or, if such security is not quoted on the OTC Bulletin Board, shall mean the over-the-counter market as furnished by any NASD member firm selected from time to time by the Corporation for that purpose.

(vi) A "trading day" shall mean a day on which the relevant Stock Market is open for the transaction of business.

2. Dividends and Distributions. (a) The holders, as of the Dividend Record Date (as defined below), of the Series A Preferred Stock shall be entitled to receive semi-annual dividends on their respective shares of Series A Preferred Stock (aggregating, for this purpose,

all shares of Series A Preferred Stock held of record or, to the Corporation's knowledge, beneficially by such holder), payable, at the option of the Corporation, in cash or additional shares of Series A Preferred Stock, at the rate of 6.5% per annum (computed on the basis of a 360-day year of twelve 30 day months) of the Dividend Base Amount (as defined below), payable semi-annually in arrears; provided that, to the extent the declaration or payment of such dividend is prohibited by applicable law, such dividend need not be paid but shall nevertheless accrue and shall be paid promptly when applicable law permits. Such dividends shall accrue from the date of issuance of such share and shall be paid semi-annually on April 1 and October 1 of each year or, if any such day is not a business day, on the next succeeding business day. Such dividends shall be paid, at the election of the Corporation, either in cash or additional duly authorized, fully paid and non assessable shares of Series A Preferred Stock. In calculating the number of shares of Series A Preferred Stock to be paid with respect to each dividend, the Series A Preferred Stock shall be valued at $100.00 per share (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series A Preferred Stock). Notwithstanding the foregoing, the Corporation shall not be required to issue fractional shares of Series A Preferred Stock; the Corporation may elect, in its sole discretion, independently for each holder, whether such number of shares (on an aggregated basis) will be rounded to the nearest whole share (with .5 of a share rounded upward) or whether such holder will be given cash in lieu of any fractional shares. The "Dividend Base Amount" of a share of Series A Preferred Stock shall be $100.00 plus all accrued but unpaid dividends (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series A Preferred Stock). The "Dividend Record Date" shall mean, for each semi-annual dividend, the March 15 or September 15, as the case may be, immediately preceding the dividend payment date.

(b) In addition to the foregoing, subject to the rights of the holders of any shares of any series or class of capital stock ranking prior, and superior to, or pari passu with, the shares of Series A Preferred Stock with respect to dividends, the holders of shares of Series A Preferred Stock shall be entitled to receive, as, when and if declared by the Board of Directors, out of assets legally available for that purpose, dividends or distributions in cash, stock or otherwise.

(c) The Corporation shall not declare any dividend or distribution on any Junior Stock (as defined below) of the Corporation unless all dividends required by Section 2(a) have been or contemporaneously are declared and paid, or declared and a sum sufficient for the payment thereof set apart for such payment, on the Series A Preferred Stock.

(d) [Reserved]

(e) All dividends or distributions declared upon the Series A Preferred Stock shall be declared pro rata per share.

(f) Any reference to "distribution" contained in this Section 2 shall not be deemed to include any distribution made in connection with or in lieu of any Liquidation Event (as defined below).

(g) No interest, or sum of money in lieu of interest, shall be payable in respect of any dividend payment or payments on the Series A Preferred Stock which may be in arrears (it being understood that this provision does not alter the Corporation's obligations under Section 2(a)).

(h) So long as any shares of the Series A Preferred Stock are outstanding, no dividends, except as described in the next succeeding sentence, shall be declared or paid or set apart for payment on any class or series of

stock of the Corporation ranking, as to dividends, on a parity with the Series A Preferred Stock, for any period unless all dividends have been or contemporaneously are declared and paid, or declared and a sum sufficient for the payment thereof set apart for such payment, on the Series A Preferred Stock. When dividends are not paid in full or a sum sufficient for such payment is not set apart, as aforesaid, upon the shares of the Series A Preferred Stock and any other class or series of stock ranking on a parity as to dividends with the Series A Preferred Stock, all dividends declared upon such other stock shall be declared pro rata so that the amounts of dividends per share declared on the Series A Preferred Stock and such other stock shall in all cases bear to each other the same ratio that accrued dividends per share on the shares of the Series A Preferred Stock and on such other stock bear to each other.

(i) So long as any shares of the Series A Preferred Stock are outstanding, no other stock of the Corporation ranking on a parity with the Series A Preferred Stock as to dividends or upon liquidation, dissolution or winding up shall be redeemed, purchased or otherwise acquired for any consideration (or any moneys be paid to or made available for a sinking fund or otherwise for the purchase or redemption of any shares of any such stock) by the Corporation unless the dividends, if any, accrued on all outstanding shares of the Series A Preferred Stock shall have been paid or set apart for payment.

(j) "Junior Stock" shall mean the Common Stock and any shares of preferred stock of any series or class of the Corporation, whether presently outstanding or hereafter issued, which are junior to the shares of Series A Preferred Stock with respect to (i) the distribution of assets on any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, (ii) dividends or (iii) voting.

3. Liquidation Preference. (a) In the event of a (i) liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, (ii) a sale or other disposition of all or substantially all of the assets of the Corporation or (iii) any consolidation, merger, combination, reorganization or other transaction in which the Corporation is not the surviving entity or shares of Common Stock constituting in excess of 50% of the voting power of the Corporation are exchanged for or changed into stock or securities of another entity, cash and/or any other property (a "Merger Transaction") (items (i), (ii) and (iii) of this sentence being collectively referred to as a "Liquidation Event"), after payment or provision for payment of debts and other liabilities of the Corporation, the holders of the Series A Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, whether such assets are capital, surplus, or earnings, before any payment or declaration and setting apart for payment of any amount shall be made in respect of any Junior Stock of the Corporation, an amount equal to the Dividend Base Amount at such

time; provided, however, in the case of a Merger Transaction, such payment may be made in cash, property (valued as provided in Subsection 3(b)) and/or securities (valued as provided in Subsection 3(b)) of the entity surviving such Merger Transaction. In the case of property or in the event that any such securities are subject to an investment letter or other similar restriction on transferability, the value of such property or securities shall be determined by agreement between the Corporation and the holders of a majority of the Series A Preferred Stock then outstanding. If upon any Liquidation Event, whether voluntary or involuntary, the assets to be distributed to the holders of the Series A Preferred Stock shall be insufficient to permit the payment to such shareholders of the full preferential amounts aforesaid, then all of the assets of the Corporation to be distributed shall be so distributed ratably to the holders of the Series A Preferred Stock on the basis of the number of shares of Series A Preferred Stock held. Notwithstanding item (iii) of the first sentence of this Subsection 3(a), any consolidation, merger, combination, reorganization or other transaction in which the Corporation is not the surviving entity but the stockholders of the Corporation immediately prior to such transaction own in excess of 50% of the voting power of the corporation surviving such transaction and own amongst themselves such interest in substantially the same proportions as prior to such transaction, shall not be considered a Liquidation Event provided that the surviving corporation shall make appropriate provisions to ensure that the terms of this Certificate of Designation survive any such transaction. All shares of Series A Preferred Stock shall rank as to payment upon the occurrence of any Liquidation Event senior to the Common Stock and, unless the terms of such series shall provide otherwise, senior to all other series of the Corporation's preferred stock.

(b) Any securities or other property to be delivered to the holders of the Series A Preferred Stock pursuant to Subsection 3(a) hereof shall

be valued as follows:

(i) Securities not subject to an investment letter or other similar restriction on free marketability:

(A) If actively traded on a Stock Market, the per share value shall be deemed to be the Market Price of such securities as of the third day prior to the date of valuation.

(B) If not actively traded on a Stock Market, the value shall be the Fair Market Value of such securities.

(ii) For securities for which there is an active public market but which are subject to an investment letter or other restrictions on free marketability, the value shall be the Fair Market Value thereof, determined by discounting appropriately the per share Market Price thereof.

(iii) For all other securities, the value shall be the Fair Market Value thereof.

4. Conversion.

(a) Right of Conversion. Commencing after the expiration of 12 months following the Alternative Equity Closing Date (as hereinafter defined), but not prior thereto, the shares of Series A Preferred Stock shall be convertible, in whole or in part, at the option of the holder thereof and upon notice to the Corporation as set forth in Subsection 4(b), into fully paid and nonassessable shares of Common Stock and such other securities and property as hereinafter provided. The initial conversion price per share of Common Stock (the "Conversion Price"), shall be equal to the product of 2.125 multiplied by the per share price (the "Stated Common Price") of Common Stock sold by the Corporation in connection with the Alternative Equity Offering (as such term is defined in the Corporation's Offer to Exchange dated February 6, 1998 (the "Original Offer to Exchange"), as amended by the Amendment thereto (the "Amendment") dated March 30, 1998 (collectively, the "Offer to Exchange")) and shall be subject to adjustment as provided herein. The rate at which each share Series A Preferred Stock is convertible at any time into Common Stock (the "Conversion Rate") shall be determined by dividing the then existing Conversion Price (determined in accordance with this Section 4, including the last paragraph hereof) into the Dividend Base Amount.

The Corporation shall prepare a certificate signed by the Chairman or President, and by the Treasurer or an Assistant Treasurer or the Secretary or an Assistant Secretary, of the Corporation setting forth the Conversion Rate as of the date of the closing of the Alternative Equity Offering (the "Alternative Equity Closing Date"), showing in reasonable detail the facts upon which such Conversion Rate is based, and such certificate shall forthwith be filed with the transfer agent of the Series A Preferred Stock.

(b) Conversion Procedures. Any holder of shares of Series A Preferred Stock desiring to convert such shares into Common Stock shall surrender the certificate or certificates evidencing such shares of Series A Preferred Stock at the office of the transfer agent for the Series A Preferred Stock, which certificate or certificates, if the Corporation shall so require, shall be duly endorsed to the Corporation or in blank, or accompanied by proper instruments of transfer to the Corporation or in blank, accompanied by irrevocable written notice to the Corporation that the holder elects so to convert such shares of Series A Preferred Stock and specifying the name or names (with address) in which a certificate or certificates evidencing shares of Common Stock are to be issued. The Corporation need not deem a notice of conversion to be received unless the holder complies with all the provisions hereof. The Corporation will instruct the transfer agent (which may be the Corporation) to make a notation of the date that a notice of conversion is received, which date of receipt shall be deemed to be the date of receipt for purposes hereof.

The Corporation shall, as soon as practicable after such deposit of certificates evidencing shares of Series A Preferred Stock accompanied by the written notice and compliance with any other conditions herein contained, deliver at such office of such transfer agent to the person for whose account such shares of Series A Preferred Stock were so surrendered, or to the nominee or nominees of such person, certificates evidencing the number

of full shares of Common Stock to which such person shall be entitled as aforesaid, subject to Section 4(d). Subject to the following provisions of this paragraph, such conversion shall be deemed to have been made as of the date of such surrender of the shares of Series A Preferred Stock to be converted, and the person or persons entitled to receive the Common Stock deliverable upon

conversion of such Series A Preferred Stock shall be treated for all purposes as the record holder or holders of such Common Stock on such date; provided, however, that the Corporation shall not be required to convert any shares of Series A Preferred Stock while the stock transfer books of the Corporation are closed for any purpose, but the surrender of Series A Preferred Stock for conversion during any period while such books are so closed shall become effective for conversion immediately upon the reopening of such books as if the surrender had been made on the date of such reopening, and the conversion shall be at the conversion rate in effect on such date. No adjustments in respect of any dividends on shares surrendered for conversion or any dividend on the Common Stock issued upon conversion shall be made upon the conversion of any shares of Series A Preferred Stock.

The Corporation shall at all times, reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of Series A Preferred Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Series A Preferred Stock.

All notices of conversion shall be irrevocable; provided, however, that if the Corporation has sent notice of an event pursuant to Subsection 4(g) hereof, a holder of Series A Preferred Stock may, at its election, provide in its notice of conversion that the conversion of its shares of Series A Preferred Stock shall be contingent upon the occurrence of the record date or effectiveness of such event (as specified by such holder), provided that such notice of conversion is received by the Corporation prior to such record date or effective date, as the case may be.

(c) Adjustment of Conversion Rate and Conversion Price.

(i) As used in this Subsection 4(c), the following terms shall have the following meanings:

"Capital Stock" of any Person means the Common Stock or Preferred Stock of such Person. Unless otherwise stated herein or the context otherwise requires, "Capital Stock" means Capital Stock of the Corporation;

"Common Stock" of any Person other than the Corporation means the common equity (however designated), including, without limitation, common stock or partnership or membership interests of, or participation or interests in such Person (or equivalents thereof). "Common Stock" of the Corporation means the Common Stock, par value $.001 per share, of the Corporation, any successor class or classes of common equity (however designated) of the Corporation into or for which such Common Stock may hereafter be converted, exchanged or reclassified and any class or classes of common equity (however designated) of the Corporation which may be distributed or issued with respect to such Common Stock or successor class of classes to holders thereof generally. Unless otherwise stated herein or the context requires otherwise, "Common Stock" means Common Stock of the Corporation;

"Current Market Price" means, when used with respect to any security as of any date, the last sale price, regular way, or, in case no such sale takes place on such date, the average of the closing bid and asked prices, regular way, of such security in either case as reported for consolidated transactions on the New York Stock Exchange or, if such security is not listed or admitted to trading on the New York Stock Exchange, as reported for consolidated transactions with respect to securities listed on the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, as reported on the Nasdaq National Market, or, if such security

is not listed or admitted to trading on the Nasdaq National Market, as reported on the Nasdaq SmallCap Market, or if such security is not listed or admitted to trading on any national securities exchange or the Nasdaq National Market or the Nasdaq SmallCap Market, the average of the high bid and low asked prices of such security in the over-the-counter market, as reported by the National Association of Securities Dealers, Inc. Automated Quotations System or such other system then in use or, if such security is not quoted by any such organization, the average of the closing bid and asked prices of such security furnished by an NASD member firm selected by the Corporation. If such security is not quoted by any such organization and no such NASD member firm is able to provide such prices, the Current Market Price of such security shall be the Fair Market Value thereof;

"Fair Market Value" means, at any date as to any asset, Property or right (including without limitation, Capital Stock of any Person, evidence of indebtedness or other securities, but excluding cash), the fair market value of such item as determined in good faith by the Board of Directors, whose determination shall be conclusive; provided, however, that such determination is described in an Officers' Certificate filed with the transfer agent and that, if there is a Current Market Price for such item on such date, "Fair Market Value" means such Current Market Price (without giving effect to the last sentence of the definition thereof);

"GAAP" means, as of any date, generally accepted accounting principles in the United States and does not include any interpretations or regulations that have been proposed but that have not become effective;

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice President of such Person;

"Officers' Certificate" means a certificate signed on behalf of the Corporation by two Officers, one of whom must be the Chairman of the Board, the President, the Treasurer or a Vice-President of the Corporation;

"Person" means any individual, corporation, partnership, association, trust

or any other entity or organization, including a government or political subdivision or any agency or instrumentality thereof;

"Preferred Stock" of any Person means the class or classes of equity, ownership or participation interests (however designated) in such Person, including, without limitation, stock, share, partnership and membership interests, which are preferred as to the payment of dividends or distributions by, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of, such Person (or equivalent thereof) over interests of any other class of interests of such Person. Unless otherwise stated herein or the context otherwise requires, "Preferred Stock" means Preferred Stock of the Corporation;

"Property" of any Person means any and all types of real, personal, tangible, intangible or mixed property owned by such Person whether or not included on the most recent consolidated balance sheet of such Person in accordance with GAAP;

"Subsidiary" of a Person on any date means any other Person of whom such Person owns, directly or indirectly through a Subsidiary or Subsidiaries of such Person, Capital Stock with voting power, acting independently and under ordinary circumstances, entitling such person to elect a

majority of the board of directors or other governing body of such other Person. Unless otherwise stated herein or the context otherwise requires, "Subsidiary" means a Subsidiary of the Corporation.

(ii) If the Corporation shall (i) pay a dividend or other distribution, in Common Stock, on any class of Capital Stock of the Corporation, (ii) subdivide the outstanding Common Stock into a greater number of shares by any means or (iii) combine the outstanding Common Stock into a smaller number of shares by any means including, without limitation, a reverse stock split), then in each such case the Conversion Price in effect immediately prior thereto shall be adjusted so that the Registered Holder of any shares of Series A Preferred Stock thereafter surrendered for conversion shall be entitled to receive the number of shares of Common Stock that such Registered Holder would have owned or have been entitled to receive upon the happening of such event had such Series A Preferred Stock been converted immediately prior to the relevant record date or, if there is no such record date, the effective date of such event. An adjustment made pursuant to this Paragraph 4(c)(ii) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date of such subdivision or combination, as the case may be.

(iii) If the Corporation shall (i) issue or distribute (at a price per share less than the Current Market Price per share of such Capital Stock on the date of such issuance or distribution) Capital Stock generally to holders of Common Stock or to holders of any class or series of Capital Stock which is convertible

into or exchangeable or exercisable for Common Stock (excluding an issuance or distribution of Common Stock described in Paragraph 4(c)(ii)) or (ii) issue or distribute generally to such holders rights, warrants, options or convertible or exchangeable securities entitling the holder thereof to subscribe for, purchase, convert into or exchange for Capital Stock at a price per share less than the Current Market Price per share of such Capital Stock on the date of issuance or distribution, then, in each such case, at the earliest of (A) the date the Corporation enters into a firm contract for such issuance or distribution, (B) the record date for the determination of stockholders entitled to receive any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities or (C) the date of actual issuance or distribution of any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities, the Conversion Price shall be reduced by multiplying the Conversion Price in effect immediately prior to such earliest date by:

(A) if such Capital Stock is Common Stock, a fraction the numerator of which is the number of shares of Common Stock outstanding, on such earliest date plus the number of shares of Common Stock which could be purchased at the Current Market Price per share of Common Stock on the date of such issuance or distribution with the aggregate consideration (based on the Fair Market Value thereof) received or receivable by the Corporation either (A) in connection with such issuance or distribution or (B) upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities (the "Aggregate Consideration"), and the denominator of which is the number of shares of Common Stock outstanding on such earliest date plus the number of shares of Common Stock to be so issued or distributed or to be issued upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities; or

(B) if such Capital Stock is other than Common Stock, a fraction the numerator of which is the Current Market Price per share of Common Stock on such earliest date minus an amount equal to (A) the difference between (1) the Current Market Price per share of such Capital Stock multiplied by the number of shares of such Capital Stock to be so issued and (2) the Aggregate Consideration, divided by (B) the number of shares of Common Stock outstanding on such date, and the denominator of which is the Current Market Price per share of Common Stock on such earliest date.

Such adjustment shall be made successively whenever any such Capital Stock, rights, warrants, options or convertible or exchangeable securities are so issued or distributed. In determining whether any rights, warrants, options or convertible or exchangeable securities entitle the holders thereof to subscribe for, purchase, convert into or exchange for shares of such Capital Stock at less than such Current Market Price, there

shall be taken into account the Fair Market Value of any consideration received or receivable by the Corporation for such rights, warrants, options or convertible or exchangeable securities. If any right, warrant,option or convertible or exchangeable security, the issuance of which resulted in an adjustment in the Conversion Price pursuant to this Paragraph 4(c)(iii), shall expire and shall not have been exercised, the Conversion Price shall immediately upon such expiration be recomputed to the Conversion Price which would have been in effect if such right, warrant, option or convertible or exchangeable securities had never been distributed or issued. Notwithstanding anything contained in this paragraph to the contrary, (i) the issuance of Capital Stock upon the exercise of such rights, warrants or options or the conversion or exchange of such convertible or exchangeable securities will not cause an adjustment in the Conversion Price if no such adjustment would have been required at the time such right, warrant, option or convertible or exchangeable security was issued or distributed; provided, however, that, if the consideration payable upon such exercise, conversion or exchange and/or the Capital Stock receivable thereupon are changed after the time of the issuance or distribution of such right, warrant, option or convertible or exchangeable security then such change shall be deemed to be the expiration thereof without having been exercised and the issuance or distribution of new options, rights, warrants or convertible or exchangeable securities and (ii) the issuance of convertible preferred stock of the Corporation as a dividend on convertible preferred stock of the Corporation will not cause an adjustment in the Conversion Price if no such adjustment would have been required at the time such underlying convertible preferred stock was issued (or as a result of any subsequent modification to the terms thereof) and the conversion provisions of such convertible stock so issued as a dividend are the same as in such underlying convertible preferred stock.

Notwithstanding any contained in this Certificate of Designation to the contrary, options, rights or warrants issued or distributed by the Corporation, including options, rights or warrants distributed prior to the date of filing of this Certificate of Designation, to holders of Common Stock generally which, until the occurrence of a specified event or events (a "Trigger Event"), (i) are deemed to be transferred with Common Stock, (ii) are not exercisable and (iii) are also issued on a pro rata basis with respect to future issuances of Common Stock, shall be deemed not to have been issued or distributed for purposes of this Subsection 4(c) (and no adjustment to the Conversion Price under this Subsection 4(c) will be required) until the occurrence of the earliest Trigger Event. Upon the occurrence of a Trigger Event, such options, rights or warrants shall continue to be deemed not to have

been issued or distributed for purposes of this Subsection 4(c) (and no adjustment to the Conversion Price under this Subsection 4(c) will be required) if and for so long as each Registered Holder who thereafter converts such Registered Holder's Series A Preferred Stock shall be entitled to receive upon such conversion, in addition to the shares of Common Stock issuable upon such conversion, a number of such options, rights or warrants, as the case may be, equal to the number of options, rights or warrants to which a holder of the number of shares of

Common Stock equal to the number of shares of Common Stock issuable upon conversion of such Registered Holder's Series A Preferred Stock is entitled to receive at the time of such conversion in accordance with the terms and provisions of, and applicable to, such options, rights or warrants. Upon the expiration of any such options, rights or warrants or at such time, if any, as a Registered Holder is not entitled to receive such options, rights or warrants upon conversion of such Registered Holder's Series A Preferred Stock, an adjustment (if any is required) to the Conversion Price shall be made in accordance with this Paragraph 4(c)(iii) with respect to the issuance of all such options, rights and warrants as of the date of issuance thereof, but subject to the provisions of the preceding paragraph, if any such option, right or warrant, including any such options right or warrants distributed prior to the date of filing of this Certificate of Designation, are subject to events, upon the occurrence of which such options, rights or warrants become exercisable to purchase different securities, evidence of indebtedness, cash, Properties or other assets or different amounts thereof, then, subject to the preceding provision of this paragraph, the date of the occurrence of any and each such event shall be deemed to be the date of distribution and record date with respect to new options, right or warrants with such new purchase rights (and a termination or expiration of the existing options, rights or warrants without exercise thereof). In addition, in the event of any distribution (or deemed distribution) of options, rights or warrants, or any Trigger Event or other event of the type described in the preceding sentence, that required (or would have required but for the provisions of Paragraph 4(c)(vi) or this paragraph) an adjustment to the Conversion Price under this Subsection 4(c) and such options, rights or warrants shall thereafter have been redeemed or repurchased without having been exercised, then the Conversion Price shall be adjusted upon such redemption or repurchase to give effect to such distribution, Trigger Event or other event, as the case may, as though it had instead been a cash distribution, equal on a per share basis to the result of the aggregate redemption or repurchase price received by holders of such options, rights or warrants divided by the number of shares of Common Stock outstanding as of the date of such repurchase or redemption, made to holders of Common Stock generally as of the date of such redemption or repurchase.

(iv) If the Corporation shall pay or distribute, as a dividend or otherwise, generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock any assets, Properties or rights (including, without limitation, evidences of indebtedness of the Corporation, any Subsidiary or any other Person, cash or Capital Stock or other securities of the Corporation, any Subsidiary or any other Person, but excluding payments and distributions as described in Paragraphs 4(c)(ii) or (iii), dividends and distributions in connection with a Liquidation Event and distributions consisting solely of cash described in Paragraph 4(c)(v)), then in each such case the Conversion Price shall be reduced by multiplying the Conversion Price in effect immediately prior to the date of such payment or distribution by a fraction, the numerator of which is the Current Market Price per share of Common Stock on the record

date for the determination of stockholders entitled to receive such payment or distribution less the Fair Market Value per

share of Common Stock on such record date of the assets, Properties or rights so paid or distributed, and the denominator of which is the Current Market Price per share of Common Stock on such record date. Such adjustment shall become effective immediately after such record date. For purposes of this Paragraph 4(c)(iv), such Fair Market Value per share shall equal the aggregate Fair Market Value on such record date of the assets, Properties or rights so paid or distributed divided by the number of shares of Common Stock outstanding on such record date. For all purposes of this Certificate of Designation, adjustments to any security's conversion or exercise price pursuant to such security's original terms shall not be deemed a distribution or dividend to holders thereof.

(v) If the Corporation shall, by dividend or otherwise, make a distribution (other than in connection with the liquidation, dissolution or winding up of the Corporation in its entirety), generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock, consisting solely of cash where (x) the sum of (i) the aggregate amount for such cash plus (ii) the aggregate amount of all cash so distributed (by dividend or otherwise) to such holders within the 12-month period ending on the record date for determining stockholder entitled to receive such distribution with respect to which no adjustment has been made to the Conversion Price pursuant to this Paragraph 4(c)(v) exceeds (y) 10% of the result of the multiplication of (1) the Current Market Price per share of Common Stock on such record date times (2) the number of shares of Common Stock outstanding on such record date, then the Conversion Price shall be reduced, effective immediately prior to the opening of business on the day following such record date, by multiplying the Conversion Price in effect immediately prior to the close of business on the day prior to such record date by a fraction, the numerator of which is the Current Market Price per share of Common Stock on such record date less the aggregate amount of cash per share so distributed and the denominator of which is such Current Market Price; provided, however, that, if the aggregate amount of cash per share is equal to or greater than such Current Market Price, then, in lieu of the foregoing adjustment, adequate provisions shall be made so that each Registered Holder shall have the right to receive upon conversion (with respect to each share of Common Stock issued upon such conversion and in addition to the Common Stock issuable upon conversion) the aggregate amount of cash per share such Registered Holder would have received had such Registered Holder's Series A Preferred Stock been converted immediately prior to such record date. In no event shall the Conversion Price be increased pursuant to this Paragraph 4(c)(v); provided, however, that if such distribution is not so made, the Conversion Price shall be adjusted to be the Conversion Price which would have been in effect if such distribution had not been declared. For purposes of this Paragraph 4(c)(v), such aggregate amount of cash per share shall equal such sum divided by the number of shares of Common Stock outstanding on such record date.

(vi) The provisions of this Subsection 4(c) shall similarly apply to all successive events of the type described in this Subsection 4(c). Notwithstanding anything contained herein to the contrary, no adjustment in the Conversion Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Conversion Price then in effect; provided, however, that any adjustments which by reason of this Paragraph 4(c)(vi) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 4 shall be made by the Corporation and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be, and the transfer agent shall be entitled to rely conclusively thereon. Except as provided in this Section 4, no adjustment in the Conversion Price will be made for the issuance of Common Stock or any securities convertible into or

exchangeable for Common Stock or carrying the right to purchase Common Stock or any securities so convertible or exchangeable.

(vii) Whenever the Conversion Price is adjusted as provided herein, the Corporation shall promptly file with the transfer agent an Officers' Certificate setting forth the Conversion Price in effect after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after delivery of such Officers' Certificate, the Corporation shall give or cause to be given to each Registered Holder a notice of such adjustment of the Conversion Price setting forth the adjusted Conversion Price and the date on which such adjustment becomes effective.

(viii) Notwithstanding anything contained herein to the contrary, in any case in which this Subsection 4(c) provides that an adjustment in the Conversion Price shall become effective immediately after a record date for an event, the Corporation may defer until the occurrence of such event (i) issuing to the Registered Holder of any Series A Preferred Stock converted after such record date and before the occurrence of such event the additional shares of Common Stock issuable upon such conversion by reason of the adjustment required by such event over and above the number of shares of Common Stock issuable upon such conversion before giving effect to such adjustment and (ii) paying to such Registered Holder any amount in cash in lieu of any fractional share of Common Stock pursuant to Subsection 4(d).

(ix) Notwithstanding any other provision hereof, no adjustment to the Conversion Price shall be made upon the issuance or exercise or conversion of (1) options or warrants to purchase, in the aggregate, up to 25% of the securities sold in the offerings of securities of the Corporation described in the Original Offer to Exchange or any options or warrants described in the Amendment in respect of the Alternative Equity Offering, in each case issued to (or to the designee of) any placement agent or financial advisor (such options or warrants, the "Offering Warrants"), (2) any equity securities or warrants of the Corporation (including, without limitation, the Series A Preferred Stock, warrants and equity securities underlying warrants) issued in exchange for 9% Convertible Subordinated

Notes due 2004 (the "9% Notes") of the Corporation or accrued interest thereon or pursuant to the conversion or exercise provisions thereof, (3) any warrants issued in connection with the offerings described in the Original Offer to Exchange or the Amendment (collectively, the "Offering"), (4) any warrants issued to Forum Capital Markets, LLC ("Forum") in exchange for or in addition to, or any amendment to, any warrants held by Forum, in each case, pursuant to a letter agreement dated January 5, 1998, between the Corporation and Forum, and any other warrants to purchase Common Stock or shares of Common Stock issued to Forum or its designee, (5) any Series A Preferred Stock issued in the Offering, (6) any Capital Stock issued or cash paid as dividends on the Series A Preferred Stock or (7) any Capital Stock issued or cash paid upon the mandatory conversion or redemption of any Series A Preferred Stock in accordance with Section 5 of this Certificate of Designation.

(d) No Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon conversion of Series A Preferred Stock. If more than one certificate evidencing shares of Series A Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares of Series A Preferred Stock so surrendered. Instead of any fractional share of Common Stock which would otherwise be issuable upon conversion of such aggregate number of shares of Series A Preferred Stock, the Corporation may elect, in its sole discretion, independently for each holder, whether such number of shares of Common Stock will be rounded to the nearest whole share (with a .5 of a share rounded upward) or whether such holder will be given cash, in lieu of any fractional share, in

an amount equal to the same fraction of the Market Price of the Common Stock as of the close of business on the day of conversion.

(e) [Reserved]

(f) Reservation of Shares; Transfer Taxes, Etc. The Corporation shall at all times reserve and keep available, out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the conversion of the Series A Preferred Stock, such number of shares of its Common Stock free of preemptive rights as shall be sufficient to effect the conversion of all shares of Series A Preferred Stock from time to time outstanding. The Corporation shall use its best efforts from time to time, in accordance with the laws of the State of Delaware to increase the authorized number of shares of Common Stock if at any time the number of shares of authorized, unissued and unreserved Common Stock shall not be sufficient to permit the conversion of all the then-outstanding shares of Series A Preferred Stock.

The Corporation shall pay any and all issue or other taxes (excluding any income taxes) that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series A Preferred Stock. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issue or delivery of Common Stock (or other securities or assets) in a name other than that in which the shares of Series A Preferred Stock so converted were registered, and no such issue or delivery shall be made unless and until the person requesting such issue has paid to the Corporation the amount

of such tax or has established, to the satisfaction of the Corporation, that such tax has been paid or need not be paid.

(g) Prior Notice of Certain Events. In case:

(i) the Corporation shall declare any dividend (or any other distribution); or

(ii) the Corporation shall authorize the granting to the holders of Common Stock of rights or warrants to subscribe for or purchase any shares of stock of any class or of any other rights or warrants; or

(iii) of any reclassification of Common Stock (other than a subdivision or combination of the outstanding Common Stock, or a change in par value, or from par value to no par value, or from no par value to par value); or

(iv) of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation shall be required, or of the sale or transfer of all or substantially all of the assets of the Corporation or of any compulsory share exchange whereby the Common Stock is converted into other securities, cash or other property; or

(v) of any Liquidation Event;

then the Corporation shall cause to be filed with the transfer agent for the Series A Preferred Stock, and shall cause to be mailed to the Registered Holders, at their last addresses as they shall appear upon the stock transfer books of the Corporation, at least 20 days prior to the applicable record date hereinafter specified, a notice stating (x) the date on which a record (if any) is to be taken for the purpose of such dividend. distribution or granting of rights or warrants or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined and a description of the cash, securities or other property to be received by such holders upon such dividend, distribution or granting of rights or warrants or (y) the date on which such reclassification, consolidation, merger, sale, transfer, share exchange or Liquidation Event is expected to become effective, the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property deliverable upon such exchange or Liquidation Event and the consideration, including securities or other property, to be received by such holders upon such exchange; provided, however, that no failure to mail such notice or any defect therein or in the mailing thereof shall affect the validity of the corporate action required to be specified in such notice.

(h) Other Changes in Conversion Rate. The Corporation from time to time may increase the Conversion Rate by any amount for any period of time if the period is at least 20 days and if the increase is irrevocable during the period. Whenever the Conversion Rate is so increased, the Corporation shall mail to the Registered Holders a notice of the increase at least 15 days before the date the increased Conversion Rate takes effect, and such notice shall

state the increased Conversion Rate and the period it will be in effect.

The Corporation may make such increases in the Conversion Rate, in addition to those required or allowed by this Section 4, as shall be determined by it, as evidenced by a resolution of the Board of Directors, to be advisable in order to avoid or diminish any income tax to holders of Common Stock resulting from any dividend or distribution of stock or issuance of rights or warrants to purchase or subscribe for stock or from any event treated as such for income tax purposes.

Notwithstanding anything to the contrary herein, in no case shall the Conversion Price be adjusted to an amount less than $.001 per share, the current par value of the Common Stock into which the Series A Preferred Stock is convertible.

(i) Ambiguities/Errors. The Board of Directors of the Corporation shall have the power to resolve any ambiguity or correct any error in the provisions relating to the convertibility of the Series A Preferred Stock, and its actions in so doing shall be final and conclusive.

5. Mandatory Conversion and Redemption. (a) At any time after the expiration of 12 months after the Alternative Equity Closing Date, the Corporation at its option, may cause the Series A Preferred Stock to be converted in whole or in part, on a pro rata basis, into fully paid and nonassessable shares of Common Stock using a conversion price equal to 200% of the Stated Common Price if the Closing Bid Price (or, if the price referenced in the definition of Closing Bid Price cannot be determined, the Fair Market Value) of the Common Stock shall have equalled or exceeded 250% of the Conversion Price for at least 20 trading days in any 30 consecutive trading day period ending three days prior to the date of notice of conversion (such event, the "Market Trigger"). Any shares of Series A Preferred Stock so converted shall be treated as having been surrendered by the holder thereof for conversion pursuant to Section 4 on the date of such mandatory conversion (unless previously converted at the option of the holder).

(b) At any time after April 1, 2000, the Corporation, at its option, may redeem the Series A Preferred Stock for cash equal to the Dividend Base Amount at such time, if the Market Trigger has occurred in the period ending three days prior to the date of notice of redemption (unless previously converted at the option of the holder).

(c) No greater than 60 nor fewer than 20 days prior to the date of any such mandatory conversion or redemption, notice by first class mail, postage prepaid, shall be given to the holders of record of the Series A Preferred Stock to be converted or redeemed, addressed to such holders at their last addresses as shown on the stock transfer books of the Corporation. Each such notice shall specify the date fixed for conversion or redemption, the place or places for surrender of shares of Series A Preferred Stock and the then effective Conversion Rate pursuant to Section 4.

Any notice which is mailed as herein provided shall be conclusively presumed to have been duly given by the Corporation on the date deposited in the mail, whether or not

the holder of the Series A Preferred Stock receives such notice; and failure properly to give such notice by mail, or any defect in such notice, to the holders of the shares to be converted or redeemed shall not affect the validity of the proceedings for the conversion or redemption of any other shares of Series A Preferred Stock. On or after the date fixed for conversion or redemption (the "Take-Out Date") as stated in such notice, each holder of shares called to be converted or redeemed shall surrender the certificate evidencing such shares to the Corporation at the place designated in such notice for conversion or redemption. After the mailing of such notice, but before the Take-Out Date as stated therein, all rights whatsoever with respect to the shares so called for conversion or redemption (except the right of the holders to convert such shares pursuant to Section 4 and to have such shares converted or redeemed, as the case may be, upon surrender of their certificates therefor,

pursuant to this Section 5) shall terminate. On or after the Take-Out Date, notwithstanding that the certificates evidencing any shares properly called for conversion or redemption shall not have been surrendered, such shares shall no longer be deemed outstanding and all rights whatsoever with respect to the shares so called for conversion or redemption (except the right of the holders to have such shares converted or redeemed, as the case may be, upon surrender of their certificates therefor, pursuant to this Section 5) shall terminate.

6. Outstanding Shares. For purposes of this Certificate of Designation, a share of Series A Preferred Stock, when issued, shall be deemed outstanding except (i) from the date, or the deemed date, of surrender of certificates evidencing shares of Series A Preferred Stock, all shares of Series A Preferred Stock converted into Common Stock or redeemed pursuant to Section 5 and (ii) from the date of registration of transfer, all shares of Series A Preferred Stock held of record by the Corporation or any subsidiary of the Corporation.

7. Class Voting Rights. The Corporation shall not, without the affirmative vote or consent of the holders of at least 50% of all outstanding Series A Preferred Stock, voting separately as a class, (i) amend, alter or repeal any provision of the Certificate of Incorporation or the Bylaws of the Corporation so as adversely to affect the relative rights, preferences, qualifications, limitations or restrictions of the Series A Preferred Stock (it being understood that the issuance of securities ranking prior to, or pari passu with, the Series A Preferred Stock (A) upon a Liquidation Event or (B) with respect to the payment of dividends or distributions shall not be considered adversely to affect such relative rights, preferences, qualifications, limitations or restrictions); or (ii) authorize or issue, or increase the authorized amount of, Series A Preferred Stock, other than Series A Preferred Stock issuable in connection with the Offering, issuable in exchange for 9% Notes or accrued interest thereon or issuable as dividends on Series A Preferred Stock.

8. Status of Acquired Shares. Shares of Series A Preferred Stock received upon conversion or redemption pursuant to Section 4 or Section 5 or otherwise acquired by the Corporation will be restored to the status of authorized but unissued shares of Preferred Stock, without designation as to class, and may thereafter be issued, but not as shares of Series A Preferred Stock.

9. Preemptive Rights. The Series A Preferred Stock is not entitled to any preemptive or subscription rights in respect of any securities of the Corporation.

10. Severability of Provisions. Whenever possible, each provision hereof shall be interpreted in a manner as to be effective and valid under applicable law, but if any provision hereof is held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating or otherwise adversely affecting the remaining provisions hereof. If a court of competent jurisdiction should determine that a provision hereof would be valid or enforceable if a period of time were extended or shortened or a particular percentage were increased or decreased, then such court may make such changes as shall be necessary to render the provision in question effective and valid under applicable law.

11. Restrictions on Change of Control. Notwithstanding anything to the contrary contained in this Certificate of Designation, without the prior written consent of the Corporation, so long as any 9% Notes remain outstanding under that certain Indenture dated as of March 26, 1997 (as amended, the "Indenture") in respect of the 9% Notes, no holder of Series A Preferred Stock shall have voting rights granted hereunder, be entitled to receive any voting securities of the Corporation pursuant hereto or be entitled to exercise any of the conversion rights set forth herein (each, a "Restricted Event"), to the extent that any such Restricted Event could, in the Corporation's reasonable judgment, either alone or in conjunction with other issuances or holdings of capital stock, warrants or convertible securities of the Corporation, result in a Change of Control (as defined in the Indenture).

[Signature page follows]

IN WITNESS WHEREOF, E. Andrews Grinstead, III, President and Chief Executive Officer of the Corporation, acting for and on behalf of the Corporation, has hereunto subscribed his name this 5th day of May, 1998.

HYBRIDON, INC.

By: /s/ E. Andrews Grinstead, III

Name: E. Andrews Grinstead, III
Title: President and Chief Executive Officer

CERTIFICATE OF AMENDMENT OF RESTATED CERTIFICATE OF INCORPORATION

OF

HYBRIDON, INC.

It is hereby certified that:

1. The name of the corporation (hereinafter called the "Corporation") is Hybridon, Inc.

2. The Certificate of Incorporation of the Corporation is hereby amended by inserting a new sentence at the end of paragraph 4 of Subsection A of Articles FOURTH thereof so that said paragraph as so amended shall read as follows:

"4. LIQUIDATION. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to any preferential rights of any then outstanding Preferred Stock. Notwithstanding the foregoing, and notwithstanding any amendments to, or resolutions of the Board of Directors in connection with, this Certificate of Incorporation, the transaction between the Corporation and Boston Biosystems, Inc. pursuant to that certain Asset Purchase Agreement of June 29, 2000, shall not constitute a dissolution or liquidation of the Corporation such as would entitle any holder of the Series A Preferred Stock to a preferred distribution."

3. Paragraph 3 of the Certificate of Designation of the Corporation shall be amended by inserting a new sentence at the end of the paragraph such that said paragraph shall read as follows:

"3(c) Notwithstanding the foregoing, and notwithstanding any amendments to, or resolutions of the Board of Directors in connection with, this Certificate of Incorporation or Certificate of Designation, the transaction between the Corporation and Boston Biosystems, Inc. pursuant to that certain Asset Purchase Agreement dated as of June 29, 2000, shall not constitute a Liquidation Event of the Corporation such as would entitle any holder of any series of Series A Preferred Stock to any preferred distribution."

4. Every other Article and provision in the Certificate of Incorporation of the Corporation remains in full force and effect.

5. The amendment of the Certificate of Incorporation herein certified has been duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be duly signed by its President this 19th day of September, 2000.

HYBRIDON, INC.

By: /s/ Robert G. Andersen

Robert G. Andersen, Vice President and CFO

CERTIFICATE OF DESIGNATION
for
SERIES B CONVERTIBLE PREFERRED STOCK
of
HYBRIDON, INC.

Pursuant to Section 151 of the
General Corporation Law of the State of Delaware

HYBRIDON, INC., a corporation organized and existing under the laws of the State of Delaware (the "Corporation"), does hereby certify that pursuant to the authority conferred on the board of directors of the Corporation (the "Board of Directors") by the Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation") of the Corporation and in accordance with Section 151 of the General Corporation Law of the State of Delaware, the Board of Directors adopted the following resolution establishing a series of 85,000 shares of preferred stock of the Corporation designated as "Series B Convertible Preferred Stock":

RESOLVED, that pursuant to the authority conferred on the Board of Directors by the Certificate of Incorporation, a series of preferred stock, par value $.01 per share, of the Corporation is hereby established and created, and that the designation and number of shares thereof and the voting and other powers, preferences and relative participating, optional or other special rights of, the shares of such series and the qualifications, limitations and restrictions thereof are as follows:

Series B Convertible Preferred Stock

1. Designation and Amount and Definitions. (a) There shall be a series of Preferred Stock designated as "Series B Convertible Preferred Stock" and the number of shares constituting such series shall be 85,000. Such series is referred to herein as the "Series B Preferred Stock". Notwithstanding any other provision in this Certificate of Designation of the Series B Preferred Stock (the "Certificate of Designation") to the contrary, such series shall be senior to the common stock, par value $.001 per share of the Corporation (the "Common Stock"), and the Series A Convertible Preferred Stock, $.01 par value per share, of the Corporation (the "Series A Preferred Stock"), with respect to dividends and the distribution of assets upon liquidation, dissolution or winding up. Such number of shares may be increased or decreased by resolution of the Board of Directors, subject to the provisions of Section 7 hereof; provided, however, that no decrease shall reduce the number of shares of Series B Preferred Stock to fewer than the number of shares then issued and outstanding.

(b) As used in this Certificate of Designation, except as otherwise provided in Subsection 4(c), the following terms shall have the following meanings:

(i) "Closing Bid Price" for any security for each trading day shall be the reported per share closing bid price of such security regular way on the Stock Market on such trading day, or, if there were no transactions on such trading day, the average of the reported closing bid and asked prices, regular way, of such security on the relevant Stock Market on such trading day.

(ii) "Fair Market Value" of any asset (including any security) means the fair market value thereof as mutually determined by the Corporation and the holders of a majority of the Series B Preferred Stock then outstanding. If the Corporation and the holders of a majority of the Series B Preferred Stock then outstanding are unable to reach agreement on any valuation matter, such valuation shall be submitted to and determined by a nationally recognized independent investment bank selected by the Board of Directors and the holders of a majority of the Series B Preferred Stock then outstanding (or, if such selection cannot be agreed upon promptly, or in any event within ten (10) days, then such valuation shall be made by a nationally recognized independent investment banking firm selected by the American Arbitration Association in New York City in accordance with its rules), the costs of which valuation shall be paid for by the Corporation.

(iii) "Market Price" shall mean the average Closing Bid Price for twenty (20) consecutive trading days, ending with the trading day prior to the date as of which the Market Price is being determined (with appropriate adjustments for subdivisions or combinations of shares effected during such period), provided that if the prices referred to in the definition of Closing Bid Price cannot be determined on any trading day, the Closing Bid Price for such trading day will

be deemed to equal Fair Market Value of such security on such trading day.

(iv) "Registered Holders" shall mean, at any time, the holders of record of the Series B Preferred Stock.

(v) "Stock Market" shall mean, with respect to any security, the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, shall mean The Nasdaq National Market System ("NNM") or The Nasdaq SmallCap Market ("SCM" and, together with NNM, "Nasdaq") or, if

such security is not quoted on Nasdaq, shall mean the OTC Bulletin Board or, if such security is not quoted on the OTC Bulletin Board, shall mean the over-the-counter market as furnished by any NASD member firm selected from time to time by the Corporation for that purpose.

(vi) "Trading Day" shall mean a day on which the relevant Stock Market is open for the transaction of business.

2. Dividends and Distributions. (a) The holders, as of the Dividend Record Date (as defined below), of the Series B Preferred Stock shall be entitled to receive semi-annual dividends on their respective shares of Series B Preferred Stock (aggregating, for this purpose, all shares of Series B Preferred Stock held of record or, to the Corporation's knowledge, beneficially by such holder), payable, at the option of the Corporation, in cash or additional shares of Series B Preferred Stock, at the rate of 8% per annum (computed on the basis of a 360-day year of twelve 30 day months) of the Dividend Base Amount (as defined below), payable semi-annually in arrears; provided that, to the extent the declaration or payment of such dividend is prohibited by applicable law, such dividend need not be paid but shall nevertheless accrue and shall be paid promptly when applicable law permits. Such dividends shall accrue (i) from March 6, 2001 for shares of Series B Preferred Stock issued within thirty days of the date of the filing of this Certificate of Designation, or (ii) from the date of issuance for shares of Series B Preferred Stock issued after thirty days from the date of filing of this Certificate of Designation, and shall be paid semi-annually on April 1 and October 1 of each year or, if any such day is not a business day, on the next succeeding business day. Such dividends shall be paid, at the election of the Corporation, either in cash or additional duly authorized, fully paid and non assessable shares of Series B Preferred Stock. In calculating the number of shares of Series B Preferred Stock to be paid with respect to each dividend, the Series B Preferred Stock shall be valued at $100.00 per share (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series B Preferred Stock). Notwithstanding the foregoing, the Corporation shall not be required to issue fractional shares of Series B Preferred Stock; the Corporation may elect, in its sole discretion, independently for each holder, whether such number of shares (on an aggregated basis) will be rounded to the nearest whole share (with .5 of a share rounded upward) or whether such holder will be given cash in lieu of any fractional shares. The "Dividend Base Amount" of a share of Series B Preferred Stock shall be $100.00 plus all accrued but unpaid dividends (subject to appropriate adjustment to reflect any stock split, combination, reclassification or reorganization of the Series B Preferred Stock). The "Dividend Record Date" shall mean, for each semi-annual dividend, the March 15 or September 15, as the case may be, immediately preceding the dividend payment date.

(b) In addition to the foregoing, subject to the rights of the holders of any shares of any series or class of capital stock ranking prior, and superior to, or pari passu with, the shares of Series B Preferred Stock with respect to dividends, and prior to the rights of the holders of Common Stock, Series A Preferred Stock and any other series or class of capital stock, the holders of shares of Series B Preferred Stock shall be entitled to receive, as, when and if declared by the Board of Directors, out of assets legally available for that purpose, dividends or distributions in cash, stock or otherwise.

(c) The Corporation shall not declare or pay any dividend or distribution on any Junior Stock (as defined below) of the Corporation unless all dividends required by Section 2(a) have been or contemporaneously are declared and paid, or declared and a sum sufficient for the payment thereof set apart for such payment, on the Series B Preferred Stock.

(d) [Reserved]

(e) All dividends or distributions declared upon the Series B Preferred Stock shall be declared pro rata per share.

(f) Any reference to "distribution" contained in this Section 2 shall not be deemed to include any distribution made in connection with or in lieu of any Liquidation Event (as defined below).

(g) No interest, or sum of money in lieu of interest, shall be payable in respect of any dividend payment or payments on the Series B Preferred Stock which may be in arrears (it being understood that this provision does not alter the Corporation's obligations under Section 2(a)).

(h) So long as any shares of the Series B Preferred Stock are outstanding, no dividends, except as described in the next succeeding sentence, shall be declared or paid or set apart for payment on any class or series of stock of the Corporation ranking, as to dividends, on a parity with the Series B Preferred Stock, for any period unless all dividends have been or contemporaneously are declared and paid, or declared and a sum sufficient for the payment thereof set apart for such payment, on the Series B Preferred Stock. When dividends are not paid in full or a sum sufficient for such payment is not set apart, as aforesaid, upon the shares of the Series B Preferred Stock and any other class or series of stock ranking on a parity as to dividends with the Series B Preferred Stock, all dividends declared upon such other stock shall be declared pro rata so that the amounts of dividends per share declared on the Series B Preferred Stock and such other stock shall in all cases bear to each other the same ratio that accrued dividends per share

on the shares of the Series B Preferred Stock and on such other stock bear to each other.

(i) So long as any shares of the Series B Preferred Stock are outstanding, no other stock of the Corporation ranking on a parity with the Series B Preferred Stock as to dividends or upon liquidation, dissolution or winding up shall be redeemed, purchased or otherwise acquired for any consideration (or any moneys be paid to or made available for a sinking fund or otherwise for the purchase or redemption of any shares of any such stock) by the Corporation unless the dividends, if any, accrued on all outstanding shares of the Series B Preferred Stock shall have been paid or set apart for payment.

(j) "Junior Stock" shall mean the Common Stock, Series A Preferred Stock, and any shares of preferred stock of any series or class of the Corporation, whether presently outstanding or hereafter issued, which are junior to the shares of Series B Preferred Stock with respect to (i) the distribution of assets on any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, (ii) dividends or (iii) voting.

3. Liquidation Preference. (a) In the event of a (i) liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, (ii) a sale or other disposition of all or substantially all of the assets of the Corporation or (iii) any consolidation, merger, combination, reorganization or other transaction in which the Corporation is not the surviving entity or shares of Common Stock constituting in excess of 50% of the voting power of the Corporation are exchanged for or changed into stock or securities of another entity, cash and/or any other property (a "Merger Transaction") (items (i), (ii) and (iii) of this sentence being collectively referred to as a "Liquidation Event"), after payment or provision for payment of debts and other liabilities of the Corporation, the holders of the Series B Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, whether such assets are capital, surplus, or earnings, before any payment or declaration and setting apart for payment of any amount shall be made in respect of any Junior Stock of the Corporation, an amount equal to the Dividend Base Amount at such time; provided, however, in the case of a Merger Transaction, such payment may be made in cash, property (valued as provided in Subsection 3(b)) and/or securities (valued as provided in Subsection 3(b)) of the entity surviving such Merger Transaction. In the case of property or in the event that any such securities are subject to an investment letter or other similar restriction on transferability, the value of such property or securities shall be determined by agreement between the Corporation and the holders of a majority of the Series B Preferred Stock then outstanding. If upon any Liquidation Event, whether voluntary or involuntary, the assets to be distributed to the holders of the Series B Preferred Stock shall be insufficient to

permit the payment to such shareholders of the full preferential amounts aforesaid, then all of the assets of the Corporation to be distributed shall be so distributed ratably to the holders of the Series B Preferred Stock on the basis of the number of shares of Series B Preferred Stock held. Notwithstanding item (iii) of the first sentence of this Subsection 3(a), any consolidation, merger, combination, reorganization or other transaction in which the Corporation is not the surviving entity but the stockholders of the Corporation immediately prior to such transaction own in excess of 50% of the voting power of the corporation surviving such transaction and own amongst themselves such interest in substantially the same proportions as prior to such transaction, shall not be considered a Liquidation Event provided that the surviving corporation shall make appropriate provisions to ensure that the terms of this Certificate of Designation survive any such transaction. All shares of Series B Preferred Stock shall rank as to payment upon the occurrence of any Liquidation Event senior to the Common Stock, the Series A Preferred Stock, and, unless the terms of such series shall provide otherwise, senior to all other series of the Corporation's preferred stock.

(b) Any securities or other property to be delivered to the holders of the Series B Preferred Stock pursuant to Subsection 3(a) hereof shall be valued as follows:

(i) Securities not subject to an investment letter or other similar restriction on free marketability:

(A) If actively traded on a Stock Market, the per share value shall be deemed to be the Market Price of such securities as of the third day prior to the date of valuation.

(B) If not actively traded on a Stock Market, the value shall be the Fair Market Value of such securities.

(ii) For securities for which there is an active public market but which are subject to an investment letter or other restrictions on free marketability, the value shall be the Fair Market Value thereof, determined by discounting appropriately the per share Market Price thereof.

(iii) For all other securities, the value shall be the Fair Market Value thereof.

4. Conversion.

(a) Right of Conversion. The shares of Series B Preferred Stock are convertible, in whole or in part, at the option of the holder thereof and upon notice to the Corporation as set forth in Subsection 4(b), into fully paid and nonassessable shares of Common Stock and such other securities and property as hereinafter provided. The initial conversion price per share of Common Stock (the "Conversion Price"), shall be $.50, subject to adjustment as provided herein. The rate at which each share of Series B Preferred Stock is convertible at any time into Common Stock (the "Conversion Rate") shall be determined by dividing the then existing Conversion Price (determined in accordance with this Section 4, including the last paragraph hereof) into the Dividend Base Amount.

(b) Conversion Procedures. Any holder of shares of Series B Preferred Stock desiring to convert such shares into Common Stock shall surrender the certificate or certificates evidencing such shares of Series B Preferred Stock at the office of the transfer agent for the Series B Preferred Stock, which certificate or certificates, if the Corporation shall so require, shall be duly endorsed to the Corporation or in blank, or accompanied by proper instruments of transfer to the Corporation or in blank, accompanied by irrevocable written notice to the Corporation that the holder elects so to convert such shares of Series B Preferred Stock and specifying the name or names (with address) in which a certificate or certificates evidencing shares of Common Stock are to be issued. The Corporation need not deem a notice of conversion to be received unless the holder complies with all the provisions hereof. The Corporation will instruct the transfer agent (which may be the Corporation) to make a notation of the date that a notice of conversion is received, which date of receipt shall be deemed to be the date of receipt for purposes hereof.

The Corporation shall, as soon as practicable after such

deposit of certificates evidencing shares of Series B Preferred Stock accompanied by the written notice and compliance with any other conditions herein contained, deliver at such office of such transfer agent to the person for whose account such shares of Series B Preferred Stock were so surrendered, or to the nominee or nominees of such person, certificates evidencing the number of full shares of Common Stock to which such person shall be entitled as aforesaid, subject to Section 4(d). Subject to the following provisions of this paragraph, such conversion shall be deemed to have been made as of the date of such surrender of the shares of Series B Preferred Stock to be converted, and the person or persons entitled to receive the Common Stock deliverable upon conversion of such Series B Preferred Stock shall be treated for all purposes as the record holder or holders of such Common Stock on such date; provided, however, that the Corporation shall not be required to convert any shares of Series B Preferred Stock while the stock transfer books of the Corporation are closed for any purpose, but the surrender of Series B Preferred Stock for conversion during any period while such books are so closed shall become effective for

conversion immediately upon the reopening of such books as if the surrender had been made on the date of such reopening, and the conversion shall be at the conversion rate in effect on such date. No adjustments in respect of any dividends on shares surrendered for conversion or any dividend on the Common Stock issued upon conversion shall be made upon the conversion of any shares of Series B Preferred Stock.

The Corporation shall at all times, reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of Series B Preferred Stock, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Series B Preferred Stock.

All notices of conversion shall be irrevocable; provided, however, that if the Corporation has sent notice of an event pursuant to Subsection 4(g) hereof, a holder of Series B Preferred Stock may, at its election, provide in its notice of conversion that the conversion of its shares of Series B Preferred Stock shall be contingent upon the occurrence of the record date or effectiveness of such event (as specified by such holder), provided that such notice of conversion is received by the Corporation prior to such record date or effective date, as the case may be.

(c) Adjustment of Conversion Rate and Conversion Price.

(i) As used in this Subsection 4(c), the following terms shall have the following meanings:

"Capital Stock" of any Person means the Common Stock or Preferred Stock of such Person. Unless otherwise stated herein or the context otherwise requires, "Capital Stock" means Capital Stock of the Corporation; "Common Stock" of any Person other than the Corporation means the common equity (however designated), including, without limitation, common stock or partnership or membership interests of, or participation or interests in such Person (or equivalents thereof).

"Common Stock" of the Corporation means the Common Stock, par value $.001 per share, of the Corporation, any successor class or classes of common equity (however designated) of the Corporation into or for which such Common Stock may hereafter be converted, exchanged or reclassified and any class or classes of common equity (however designated) of the Corporation which may be distributed or issued with respect to such Common Stock or successor class of classes to holders thereof generally. Unless otherwise stated herein or the

context requires otherwise, "Common Stock" means Common Stock of the Corporation;

"Current Market Price" means, when used with respect to any security as of any date, the last sale price, regular way, or, in case no such sale takes place on such date, the average of the closing bid and asked prices, regular way, of such security in either case as reported for consolidated

transactions on the New York Stock Exchange or, if such security is not listed or admitted to trading on the New York Stock Exchange, as reported for consolidated transactions with respect to securities listed on the principal national securities exchange on which such security is listed or admitted to trading or, if such security is not listed or admitted to trading on any national securities exchange, as reported on the Nasdaq National Market, or, if such security is not listed or admitted to trading on the Nasdaq National Market, as reported on the Nasdaq SmallCap Market, or if such security is not listed or admitted to trading on any national securities exchange or the Nasdaq National Market or the Nasdaq SmallCap Market, the average of the high bid and low asked prices of such security in the over-the-counter market, as reported by the National Association of Securities Dealers, Inc. Automated Quotations System or such other system then in use or, if such security is not quoted by any such organization, the average of the closing bid and asked prices of such security furnished by an NASD member firm selected by the Corporation. If such security is not quoted by any such organization and no such NASD member firm is able to provide such prices, the Current Market Price of such security shall be the Fair Market Value thereof;

"Fair Market Value" means, at any date as to any asset, Property or right (including without limitation, Capital Stock of any Person, evidence of indebtedness or other securities, but excluding cash), the fair market value of such item as determined in good faith by the Board of Directors, whose determination shall be conclusive; provided, however, that such determination is described in an Officers' Certificate filed with the transfer agent and that, if there is a Current Market Price for such item on such date, "Fair Market Value" means such Current Market Price (without giving effect to the last sentence of the definition thereof);

"GAAP" means, as of any date, generally accepted accounting principles in the United States and does not include any

interpretations or regulations that have been proposed but that have not become effective;

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice President of such Person;

"Officers' Certificate" means a certificate signed on behalf of the Corporation by two Officers, one of whom must be the Chairman of the Board, the President, the Treasurer or a Vice-President of the Corporation;

"Person" means any individual, corporation, partnership, association, trust or any other entity or organization, including a government or political subdivision or any agency or instrumentality thereof;

"Preferred Stock" of any Person means the class or classes of equity, ownership or participation interests (however designated) in such Person, including, without limitation, stock, share, partnership and membership interests, which are preferred as to the payment of dividends or distributions by, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of, such Person (or equivalent thereof) over interests of any other class of interests of such Person. Unless otherwise stated herein or the context otherwise requires, "Preferred Stock" means Preferred Stock of the Corporation;

"Property" of any Person means any and all types of real, personal, tangible, intangible or mixed property owned by such Person whether or not included on the most recent

consolidated balance sheet of such Person in accordance with GAAP;

"Subsidiary" of a Person on any date means any other Person of whom such Person owns, directly or indirectly through a Subsidiary or Subsidiaries of such Person, Capital Stock with voting power, acting independently and under ordinary circumstances, entitling such person to elect a majority of the board of directors or other governing body of such other Person. Unless otherwise stated herein or the context otherwise requires, "Subsidiary" means a Subsidiary of the Corporation.

(ii) If the Corporation shall (i) pay a dividend or other distribution, in Common Stock, on any class of Capital Stock of the Corporation, (ii) subdivide the outstanding Common Stock into a greater number of shares by any means or (iii) combine the outstanding Common Stock into a smaller number of shares by any means including, without limitation, a reverse stock split), then in each such case the Conversion Price in effect immediately prior thereto shall be adjusted so that the Registered Holder of any shares of Series B Preferred Stock thereafter surrendered for conversion shall be entitled to receive the number of shares of Common Stock that such Registered Holder would have owned or have been entitled to receive upon the happening of such event had such Series B Preferred Stock been converted immediately prior to the relevant record date or, if there is no such record date, the effective date of such event. An adjustment made pursuant to this Paragraph 4(c)(ii) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date of such subdivision or combination, as the case may be.

(iii) If the Corporation shall (i) issue or distribute (at a price per share less than the Current Market Price per share of such Capital Stock on the date of such issuance or distribution) Capital Stock generally to holders of Common Stock or to holders of any class or series of Capital Stock which is convertible into or exchangeable or exercisable for Common Stock (excluding an issuance or distribution of Common Stock described in Paragraph 4(c)(ii)) or (ii) issue or distribute generally to such holders rights, warrants, options or convertible or exchangeable securities entitling the holder thereof to subscribe for, purchase, convert into or exchange for Capital Stock at a price per share less than the Current Market Price per share of such Capital Stock on the date of issuance or distribution, then, in each such case, at the earliest of (A) the date the Corporation enters into a firm contract for such issuance or distribution, (B) the record date for the determination of stockholders entitled to receive any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities or (C) the date of actual issuance or distribution of any such Capital Stock or any such rights, warrants, options or convertible or exchangeable securities, the Conversion Price shall be reduced by multiplying the Conversion Price in effect immediately prior to such earliest date by:

(A) if such Capital Stock is Common Stock, a fraction the numerator of which is the number of shares of Common Stock outstanding, on such earliest date plus the number of shares of Common Stock which could be purchased at the Current Market Price per share of Common Stock on the date of such issuance or distribution with the aggregate consideration (based on the Fair Market Value thereof) received or receivable by the Corporation either (A) in connection with such issuance or distribution or (B) upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities (the "Aggregate Consideration"), and the denominator of

which is the number of shares of Common Stock outstanding on such earliest date plus the number of shares of Common Stock to be so issued or distributed or to be issued upon the conversion, exchange, purchase or subscription of all such rights, warrants, options or convertible or exchangeable securities; or

(B) if such Capital Stock is other than Common Stock, a fraction the numerator of which is the Current Market Price per share of Common Stock on such earliest date minus an amount equal to (A) the difference between (1) the Current Market Price per share of such Capital Stock multiplied by the number of shares of such Capital Stock to be so issued and (2) the Aggregate Consideration, divided by (B) the number of shares of Common Stock outstanding on such date, and the denominator of which is the Current Market Price per share of Common Stock on such earliest date.

Such adjustment shall be made successively whenever any such Capital Stock, rights, warrants, options or convertible or exchangeable securities are so issued or distributed. In determining whether any rights, warrants, options or convertible or exchangeable securities entitle the holders thereof to subscribe for, purchase, convert into or exchange for shares of such Capital Stock at less than such Current Market Price, there shall be taken into account the Fair Market Value of any consideration received or receivable by the Corporation for such rights, warrants, options or convertible or exchangeable securities. If any right, warrant, option or convertible or exchangeable security, the issuance of which resulted in an adjustment in the Conversion Price pursuant to this Paragraph 4(c)(iii), shall expire and shall not have been exercised, the Conversion Price shall immediately upon such expiration be recomputed to the Conversion Price which would have

been in effect if such right, warrant, option or convertible or exchangeable securities had never been distributed or issued. Notwithstanding anything contained in this paragraph to the contrary, (i) the issuance of Capital Stock upon the exercise of such rights, warrants or options or the conversion or exchange of such convertible or exchangeable securities will not cause an adjustment in the Conversion Price if no such adjustment would have been required at the time such right, warrant, option or convertible or exchangeable security was issued or distributed; provided, however, that, if the consideration payable upon such exercise, conversion or exchange and/or the Capital Stock receivable thereupon are changed after the time of the issuance or distribution of such right, warrant, option or convertible or exchangeable security then such change shall be deemed to be the expiration thereof without having been exercised and the issuance or distribution of new options, rights, warrants or convertible or exchangeable securities and (ii) the issuance of convertible preferred stock of the Corporation as a dividend on convertible preferred stock of the Corporation will not cause an adjustment in the Conversion Price if no such adjustment would have been required at the time such underlying convertible preferred stock was issued (or as a result of any subsequent modification to the terms thereof) and the conversion provisions of such convertible stock so issued as a dividend are the same as in such underlying convertible preferred stock.

Notwithstanding any contained in this Certificate of Designation to the contrary, options, rights or warrants issued or distributed by the Corporation, including options, rights or warrants distributed prior to the date of filing of this Certificate of Designation, to holders of Common Stock generally which, until the occurrence of a specified event or events (a "Trigger Event"), (i) are deemed to be transferred with Common Stock, (ii) are not exercisable and (iii) are also

issued on a pro rata basis with respect to future issuances of Common Stock, shall be deemed not to have been issued or distributed for purposes of this Subsection 4(c) (and no adjustment to the Conversion Price under this Subsection 4(c) will be required) until the occurrence of the earliest Trigger Event. Upon the occurrence of a Trigger Event, such options, rights or warrants shall continue to be deemed not to have been issued or distributed for purposes of this Subsection 4(c) (and no adjustment to the Conversion Price under this Subsection 4(c) will be required) if and for so long as each Registered Holder who thereafter converts such Registered Holder's Series B Preferred Stock shall be entitled to receive upon such conversion, in addition to the shares of Common Stock issuable upon such conversion,

a number of such options, rights or warrants, as the case may be, equal to the number of options, rights or warrants to which a holder of the number of shares of Common Stock equal to the number of shares of Common Stock issuable upon conversion of such Registered Holder's Series B Preferred Stock is entitled to receive at the time of such conversion in accordance with the terms and provisions of, and applicable to, such options, rights or warrants. Upon the expiration of any such options, rights or warrants or at such time, if any, as a Registered Holder is not entitled to receive such options, rights or warrants upon conversion of such Registered Holder's Series B Preferred Stock, an adjustment (if any is required) to the Conversion Price shall be made in accordance with this Paragraph 4(c)(iii) with respect to the issuance of all such options, rights and warrants as of the date of issuance thereof, but subject to the provisions of the preceding paragraph, if any such option, right or warrant, including any such options right or warrants distributed prior to the date of filing of this Certificate of Designation, are subject to events, upon the occurrence of which such options, rights or warrants become exercisable to purchase different securities, evidence of indebtedness, cash, Properties or other assets or different amounts thereof, then, subject to the preceding provision of this paragraph, the date of the occurrence of any and each such event shall be deemed to be the date of distribution and record date with respect to new options, right or warrants with such new purchase rights (and a termination or expiration of the existing options, rights or warrants without exercise thereof). In addition, in the event of any distribution (or deemed distribution) of options, rights or warrants, or any Trigger Event or other event of the type described in the preceding sentence, that required (or would have required but for the provisions of Paragraph 4(c)(vi) or this paragraph) an adjustment to the Conversion Price under this Subsection 4(c) and such options, rights or warrants shall thereafter have been redeemed or repurchased without having been exercised, then the Conversion Price shall be adjusted upon such redemption or repurchase to give effect to such distribution, Trigger Event or other event, as the case may, as though it had instead been a cash distribution, equal on a per share basis to the result of the aggregate redemption or repurchase price received by holders of such options, rights or warrants divided by the number of shares of Common Stock outstanding as of the date of such repurchase or redemption, made to holders of Common Stock generally as of the date of such redemption or repurchase.

(iv) If the Corporation shall pay or distribute, as a dividend or otherwise, generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock any assets, Properties or rights (including, without limitation, evidences of indebtedness of the Corporation, any Subsidiary or any other Person, cash or Capital Stock or other securities of the Corporation, any Subsidiary or any other Person, but excluding payments and distributions as described in Paragraphs 4(c)(ii) or (iii), dividends and distributions in connection with a Liquidation Event and distributions consisting solely of cash described in Paragraph 4(c)(v)), then in each such case the Conversion Price shall be reduced by multiplying the

Conversion Price in effect immediately prior to the date of such payment or distribution by a fraction, the numerator of which is the Current Market Price per share of Common Stock on the record date for the determination of stockholders entitled to receive such payment or distribution less the Fair Market Value per share of Common Stock on such record date of the assets, Properties or rights so paid or distributed, and the denominator of which is the Current Market Price per share of Common Stock on such record date. Such adjustment shall become effective immediately after such record date. For purposes of this Paragraph 4(c)(iv), such Fair Market Value per share shall equal the aggregate Fair Market Value on such record date of the assets, Properties or rights so paid or distributed divided by the number of shares of Common Stock outstanding on such record date. For all purposes of this Certificate of Designation, adjustments to any security's conversion or exercise price pursuant to such security's original terms shall not be deemed a distribution or dividend to holders thereof.

(v) If the Corporation shall, by dividend or otherwise, make a distribution (other than in connection with the liquidation, dissolution or winding up of the Corporation in its entirety), generally to holders of Common Stock or any class or series of Capital Stock which is convertible into or exercisable or exchangeable for Common Stock, consisting solely of cash where (x) the sum of (i) the aggregate amount for such cash plus (ii) the aggregate amount of all cash so distributed (by dividend or otherwise) to such holders within the 12-month period ending on the record date for determining stockholder entitled to receive such distribution with respect to which no adjustment has been made to the Conversion Price pursuant to this Paragraph 4(c)(v) exceeds (y) 10% of the result of the multiplication of (1) the Current Market Price per share of Common Stock on such record date times (2)

the number of shares of Common Stock outstanding on such record date, then the Conversion Price shall be reduced, effective immediately prior to the opening of business on the day following such record date, by multiplying the Conversion Price in effect immediately prior to the close of business on the day prior to such record date by a fraction, the numerator of which is the Current Market Price per share of Common Stock on such record date less the aggregate amount of cash per share so distributed and the denominator of which is such Current Market Price; provided, however, that, if the aggregate amount of cash per share is equal to or greater than such Current Market Price, then, in lieu of the foregoing adjustment, adequate provisions shall be made so that each Registered Holder shall have the right to receive upon conversion (with respect to each share of Common Stock issued upon such conversion and in addition to the Common Stock issuable upon conversion) the aggregate amount of cash per share such Registered Holder would have received had such Registered Holder's Series B Preferred Stock been converted immediately prior to such record date. In no event shall the Conversion Price be increased pursuant to this Paragraph 4(c)(v); provided, however, that if such distribution is not so made, the Conversion Price shall be adjusted to be the Conversion Price which would have been in effect if such distribution had not been declared. For purposes of this Paragraph 4(c)(v), such aggregate amount of cash per share shall equal such sum divided by the number of shares of Common Stock outstanding on such record date.

(vi) The provisions of this Subsection 4(c) shall similarly apply to all successive events of the type described in this Subsection 4(c). Notwithstanding anything contained herein to the contrary, no adjustment in the Conversion Price shall be required unless such adjustment would require an increase or decrease of at least 1% in the Conversion Price then in effect; provided, however, that any adjustments which by reason of this Paragraph 4(c)(vi) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 4

shall be made by the Corporation and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be, and the transfer agent shall be entitled to rely conclusively thereon. Except as provided in this Section 4, no adjustment in the Conversion Price will be made for the issuance of Common Stock or any securities convertible into or exchangeable for Common Stock or carrying the right to purchase Common Stock or any securities so convertible or exchangeable.

(vii) Whenever the Conversion Price is adjusted as provided herein, the Corporation shall promptly file with the transfer agent an Officers' Certificate setting forth the Conversion Price in effect after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after delivery of such Officers' Certificate, the Corporation shall give or cause to be given to each Registered Holder a notice of such adjustment of the Conversion Price setting forth the adjusted Conversion Price and the date on which such adjustment becomes effective.

(viii) Notwithstanding anything contained herein to the contrary, in any case in which this Subsection 4(c) provides that an adjustment in the Conversion Price shall become effective immediately after a record date for an event, the Corporation may defer until the occurrence of such event (i) issuing to the Registered Holder of any Series B Preferred Stock converted after such record date and before the occurrence of such event the additional shares of Common Stock issuable upon such conversion by reason of the adjustment required by such event over and above the number of shares of Common Stock issuable upon such conversion before giving effect to such adjustment and (ii) paying to such Registered Holder any amount in cash in lieu of any fractional share of Common Stock pursuant to Subsection 4(d).

(ix) Notwithstanding any other provision hereof, no adjustment to the Conversion Price shall be made upon the issuance or exercise or conversion of (1) any Capital Stock issued or cash paid as dividends on the Series B Preferred Stock, or (2) any Capital Stock issued or cash paid upon the mandatory conversion or redemption of any Series B Preferred Stock in accordance with Section 5 of this Certificate of Designation.

(d) No Fractional Shares. No fractional shares or scrip representing fractional shares of Common Stock shall be issued upon conversion of Series B Preferred Stock. If more than one certificate evidencing shares of Series B Preferred Stock shall be surrendered for conversion at one time by the same holder, the number of full shares issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares of Series B Preferred Stock so surrendered. Instead of any fractional share of Common Stock which would otherwise be issuable upon conversion of such aggregate number of shares of Series B Preferred Stock, the Corporation may elect, in its sole discretion, independently for each holder, whether such number of shares of Common Stock will be rounded to the nearest whole share (with a .5 of a share rounded upward) or whether such holder will be given cash, in

lieu of any fractional share, in an amount equal to the same fraction of the Market Price of the Common Stock as of the close of business on the day of conversion.

(e) [Reserved]

(f) Reservation of Shares; Transfer Taxes, Etc. The Corporation shall at all times reserve and keep available, out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the conversion of the Series B Preferred Stock, such number of shares of its Common Stock free of preemptive rights as shall be sufficient to effect the conversion of all shares of Series B Preferred Stock from time to time outstanding. The Corporation shall use its best efforts from time to time, in accordance with the laws of the State of Delaware to increase the authorized number of shares of Common Stock if at any time the number of shares of authorized, unissued and unreserved Common Stock shall not be sufficient to permit the conversion of all the then-outstanding shares of Series B Preferred Stock.

The Corporation shall pay any and all issue or other taxes (excluding any income taxes) that may be payable in respect of any issue or delivery of shares of Common Stock on conversion of the Series B Preferred Stock. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issue or delivery of Common Stock (or other securities or assets) in a name other than that in which the shares of Series B Preferred Stock so converted were registered, and no such issue or delivery shall be made unless and until the person requesting such issue has paid to the Corporation the amount of such tax or has established, to the satisfaction of the Corporation, that such tax has been paid or need not be paid.

(g) Prior Notice of Certain Events. In case:

(i) the Corporation shall declare any dividend (or any other distribution); or

(ii) the Corporation shall authorize the granting to the holders of Common Stock or the Series A Preferred Stock of rights or warrants to subscribe for or purchase any shares of stock of any class or of any other rights or warrants; or

(iii) of any reclassification of Common Stock (other than a subdivision or combination of the outstanding Common Stock, or a change in par value, or from par value to no par value, or from no par value to par value); or

(iv) of any consolidation or merger to which the Corporation is a party and for which approval of any stockholders of the Corporation shall be required, or of the sale or transfer of all or substantially all of the assets of the Corporation or of any compulsory share exchange whereby the Common Stock is converted into other securities, cash or other property; or

(v) of any Liquidation Event;

then the Corporation shall cause to be filed with the transfer agent for the Series B Preferred Stock, and shall cause to be mailed to the Registered Holders, at their last addresses as they shall appear upon the stock transfer books of the Corporation, at least twenty (20) days prior to the applicable record date hereinafter specified, a notice stating (x) the date on which a record (if any) is to be taken for the purpose of such dividend, distribution or granting of rights or warrants or, if a record is not to be taken, the date as of which the holders of Common Stock or Series A Preferred Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined and a description of the cash, securities or other property to be received by such holders upon such dividend, distribution or granting of rights or warrants or (y) the date on which such reclassification, consolidation, merger, sale, transfer, share exchange or Liquidation Event is expected to become effective, the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property deliverable upon such exchange or Liquidation Event and the consideration, including securities or other property, to be received by such holders upon such exchange; provided, however, that no failure to mail such notice or any defect therein or in the mailing thereof shall affect the validity of the corporate action required to be specified in such notice.

(h) Other Changes in Conversion Rate. The Corporation from time to time may increase the Conversion Rate by any amount for any period of time if the period is at least 20 days and if the increase is irrevocable during the period. Whenever the Conversion Rate is so increased, the Corporation shall mail to the Registered Holders a notice of the increase at least 15 days before the date the increased Conversion Rate takes effect, and such notice shall state the increased Conversion Rate and the period it will be in effect.

The Corporation may make such increases in the Conversion Rate, in addition to those required or allowed by this Section 4, as shall be determined by it, as evidenced by a resolution of the Board of Directors, to be advisable in order to avoid or diminish any income tax to holders of Common Stock resulting from any dividend or distribution of stock or issuance of rights or warrants to purchase or subscribe for stock or from any event treated as such

for income tax purposes.

Notwithstanding anything to the contrary herein, in no case shall the Conversion Price be adjusted to an amount less than $.001 per share, the current par value of the Common Stock into which the Series B Preferred Stock is convertible.

(i) Ambiguities/Errors. The Board of Directors of the Corporation shall have the power to resolve any ambiguity or correct any error in the provisions relating to the convertibility of the Series B Preferred Stock, and its actions in so doing shall be final and conclusive.

5. Mandatory Conversion and Redemption. (a) In the event the Corporation causes the Series A Preferred Stock to be converted in whole or in part, into fully paid and nonassessable shares of Common Stock, then the Corporation shall also convert the Series B Preferred Stock, in whole or in part, on a pro rata basis among holders of the Series B Preferred Stock, into fully paid and nonassessable shares of Common Stock using a conversion price of $.50. Any shares of Series B Preferred Stock so converted shall be treated as having been surrendered by the holder thereof for conversion pursuant to Section 4 on the date of such mandatory conversion (unless previously converted at the option of the holder).

(b) If, at any time, the Corporation redeems the Series A Preferred Stock, the Corporation may, at its option, redeem the Series B Preferred Stock, in whole or in part, on a pro rata basis among holders of the Series B Preferred Stock.

(c) No greater than 60 nor fewer than 20 days prior to the date of any such mandatory conversion or redemption, notice by first class mail, postage prepaid, shall be given to the holders of record of the Series B Preferred Stock to be converted or redeemed, addressed to such holders at their last addresses as shown on the stock transfer books of the Corporation. Each such notice shall specify the date fixed for conversion or redemption, the place or places for surrender of shares of Series B Preferred Stock and the then effective Conversion Rate pursuant to Section 4.

Any notice which is mailed as herein provided shall be conclusively presumed to have been duly given by the Corporation on the date deposited in the mail, whether or not the holder of the Series B Preferred Stock receives such notice; and failure properly to give such notice by mail, or any defect in such notice, to the holders of the shares to be converted or redeemed shall not affect the validity of the proceedings for the conversion or redemption of any other shares of Series B Preferred Stock. On or after the date fixed for conversion or redemption (the "Take-Out Date") as stated in such notice, each holder of shares called to be converted or

redeemed shall surrender the certificate evidencing such shares to the Corporation at the place designated in such notice for conversion or redemption. After the mailing of such notice, but before the Take-Out Date as stated therein, all rights whatsoever with respect to the shares so called for conversion or redemption (except the right of the holders to convert such shares pursuant to Section 4 and to have such shares converted or redeemed, as the case may be, upon surrender of their certificates therefor, pursuant to this Section 5) shall terminate. On or after the Take-Out Date, notwithstanding that the certificates evidencing any shares properly called for conversion or redemption shall not have been surrendered, such shares shall no longer be deemed outstanding and all rights whatsoever with respect to the shares so called for conversion or redemption (except the right of the holders to have such shares converted or redeemed, as the case may be, upon surrender of their certificates therefor, pursuant to this Section 5) shall terminate.

6. Outstanding Shares. For purposes of this Certificate of Designation, a share of Series B Preferred Stock, when issued, shall be deemed outstanding except (i) from the date, or the deemed date, of surrender of certificates evidencing shares of Series B Preferred Stock, all shares of Series B Preferred Stock converted into Common Stock or redeemed pursuant to Section 5 and (ii) from the date of registration of transfer, all shares of Series B Preferred Stock held of record by the Corporation or any subsidiary of the Corporation.

7. Class Voting Rights. The Corporation shall not, without the affirmative vote or consent of the holders of at least 50% of all outstanding Series B Preferred Stock, voting separately as a class, (i) amend, alter or repeal any provision of the Certificate of Incorporation or the Bylaws of the

Corporation so as to adversely affect the relative rights, preferences, qualifications, limitations or restrictions of the Series B Preferred Stock; (ii) authorize or issue, or increase the authorized amount of, Series B Preferred Stock, other than Series B Preferred Stock issuable in exchange for 8% Notes or accrued interest thereon or issuable as dividends on Series B Preferred Stock; or (iii) issue securities ranking prior to, or pari passu with the Series B Preferred Stock.

8. Status of Acquired Shares. Shares of Series B Preferred Stock received upon conversion or redemption pursuant to Section 4 or Section 5 or otherwise acquired by the Corporation will be restored to the status of authorized but unissued shares of Preferred Stock, without designation as to class, and may thereafter be issued, but not as shares of Series B Preferred Stock.

9. Preemptive Rights. The Series B Preferred Stock is not entitled to any preemptive or subscription rights in respect of any securities of the Corporation.

10. Severability of Provisions. Whenever possible, each provision hereof shall be interpreted in a manner as to be effective and valid under applicable law, but if any provision hereof is held to be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating or otherwise adversely affecting the remaining provisions hereof. If a court of competent jurisdiction should determine that a provision hereof would be valid or enforceable if a period of time were extended or shortened or a particular percentage were increased or decreased, then such court may make such changes as shall be necessary to render the provision in question effective and valid under applicable law.

IN WITNESS WHEREOF, Sudhir Agrawal, President and Acting Chief Executive Officer of the Corporation, acting for and on behalf of the Corporation, has hereunto subscribed his name this 15 day of March, 2001.

HYBRIDON, INC.

By: //Sudhir Agrawal

Name: Sudhir Agrawal
Title: President and Acting Chief Executive Officer

HYBRIDON, INC.

CERTIFICATE OF ELIMINATION
OF NUMBER OF SHARES OF PREFERRED STOCK
DESIGNATED AS
SERIES B CONVERTIBLE PREFERRED STOCK

Hybridon, Inc., a Delaware corporation (the "Corporation"), pursuant to authority conferred upon the Board of Directors of the Corporation by the Corporation's Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), and in accordance with the provisions of Section 151(g) of the General Corporation Law of the State of Delaware (the "Delaware Law"), certifies that the Board of Directors of the Corporation duly adopted the following resolution:

"RESOLVED: That no shares of the Corporation's Series B Convertible Preferred Stock (the "Series B Preferred Stock") are outstanding and no shares of Series B Preferred Stock will be issued subject to the Certificate of Designation dated March 28, 2001 with respect to such series (the "Series B Certificate of Designation"); and that the proper officers of the Corporation be and hereby are authorized and directed in the name and on behalf of the Corporation to execute and file a certificate with the Secretary of State of the State of Delaware pursuant to Section 151(g) of the Delaware Law setting forth the text of this resolution, upon the filing and effectiveness of which all matters are set forth in the Series B

Certificate of Designation shall be deemed to have been eliminated from the Certificate of Incorporation and the 85,000 shares of Preferred Stock previously designated as Series B Preferred Stock shall resume their status as undesignated shares of Preferred Stock available for future issuance in accordance with the Certificate of Incorporation."

IN WITNESS WHEREOF, the Corporation has caused its corporate seal to be affixed hereto and this Certificate to be signed by its Chief Executive Officer this 10th day of December, 2001.

HYBRIDON, INC.

By: /s/ Stephen R. Seiler
Stephen R. Seiler
Chief Executive Officer

CERTIFICATE OF DESIGNATIONS
OF
SERIES C JUNIOR PARTICIPATING PREFERRED STOCK
OF
HYBRIDON, INC.

Hybridon, Inc., a corporation organized and existing under the laws of the State of Delaware (hereinafter called the "Corporation"), hereby certifies that the following resolution was adopted by the Board of Directors of the Corporation at a meeting duly called and held on December 10, 2001:

RESOLVED: That pursuant to the authority granted to and vested in the Board of Directors of the Corporation (hereinafter called the "Board") in accordance with the provisions of the Certificate of Incorporation, as amended, the Board hereby creates a series of Preferred Stock, $.01 par value per share (the "Preferred Stock"), of the Corporation and hereby states the designation and number of shares, and fixes the relative rights, preferences and limitations thereof as follows:

Series C Junior Participating Preferred Stock:

Section 1. Designation and Amount. The shares of such series shall be designated as "Series C Junior Participating Preferred Stock" (the "Series C Preferred Stock") and the number of shares constituting the Series C Preferred Stock shall be one hundred thousand (100,000). Such number of shares may be increased or decreased by resolution of the Board prior to issuance; provided, that no decrease shall reduce the number of shares of Series C Preferred Stock to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities issued by the Corporation convertible into Series C Preferred Stock.

Section 2. Dividends and Distributions.

(A) Subject to the rights of the holders of any shares of any series of Preferred Stock (or any similar stock) ranking prior and superior to the Series C Preferred Stock with respect to dividends, the holders of shares of Series C Preferred Stock, in preference to the holders of Common Stock, par value $.001 per share (the "Common Stock"), of the Corporation, and of any other junior stock, shall be entitled to receive, when, as and if declared by the Board out of funds of the Corporation legally available for the payment of dividends, quarterly dividends payable in cash on the last day of each fiscal quarter of the Corporation in each year (each such date being

referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series C Preferred Stock, in an amount per share (rounded to the nearest cent) equal to the greater of (a) $10 or (b) subject to the provision for adjustment hereinafter set forth, 1,000 times the aggregate per share amount of all cash dividends, and 1,000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of Common Stock or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment

Date or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series C Preferred Stock. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under clause (b) of the first sentence of this Section 2(A) shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

(B) The Corporation shall declare a dividend or distribution on the Series C Preferred Stock as provided in paragraph (A) of this Section immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock) and the Corporation shall pay such dividend or distribution on the Series C Preferred Stock before the dividend or distribution declared on the Common Stock is paid or set apart; provided that, in the event no dividend or distribution shall have been declared on the Common Stock during the period between any Quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of $10 per share on the Series C Preferred Stock shall nevertheless be payable on such subsequent Quarterly Dividend Payment Date.

(C) Dividends shall begin to accrue and be cumulative on outstanding shares of Series C Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series C Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment

Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series C Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board may fix a record date for the determination of holders of shares of Series C Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not more than 60 days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Series C Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Series C Preferred Stock shall entitle the holder thereof to 1,000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the number of votes per share to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction, the numerator of which is the number of shares of

Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the number of votes per share to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

(B) Except as otherwise provided herein, in the Certificate of Incorporation or by law, the holders of shares of Series C Preferred Stock and the holders of shares of Common Stock and any other capital stock of the Corporation having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(C) (i) If at any time dividends on any Series C Preferred Stock shall be in arrears in an amount equal to six quarterly dividends thereon, the holders of the Series C Preferred Stock, voting as a separate series from all other series of Preferred Stock and classes of capital stock, shall be entitled to elect two members of the Board in addition to any Directors elected by any other series, class or classes of securities and the authorized number of Directors

will automatically be increased by two. Promptly thereafter, the Board of the Corporation shall, as soon as may be practicable, call a special meeting of holders of Series C Preferred Stock for the purpose of electing such members of the Board. Such special meeting shall in any event be held within 45 days of the occurrence of such arrearage.

(ii) During any period when the holders of Series C Preferred Stock, voting as a separate series, shall be entitled and shall have exercised their right to elect two Directors, then, and during such time as such right continues, (a) the then authorized number of Directors shall be increased by two, and the holders of Series C Preferred Stock, voting as a separate series, shall be entitled to elect the additional Directors so provided for, and (b) each such additional Director shall not be a member of any existing class of the Board, but shall serve until the next annual meeting of stockholders for the election of Directors, or until his successor shall be elected and shall qualify, or until his right to hold such office terminates pursuant to the provisions of this Section 3(C).

(iii) A Director elected pursuant to the terms hereof may be removed with or without cause by the holders of Series C Preferred Stock entitled to vote in an election of such Director.

(iv) If, during any interval between annual meetings of stockholders for the election of Directors and while the holders of Series C Preferred Stock shall be entitled to elect two Directors, there is no such Director in office by reason of resignation, death or removal, then, promptly thereafter, the Board shall call a special meeting of the holders of Series C Preferred Stock for the purpose of filling such vacancy and such vacancy shall be filled at such special meeting. Such special meeting shall in any event be held within 45 days of the occurrence of such vacancy.

(v) At such time as the arrearage is fully cured, and all dividends accumulated and unpaid on any shares of Series C Preferred Stock outstanding are paid, and, in addition thereto, at least one regular dividend has been paid subsequent to curing such arrearage, the term of office of any Director elected pursuant to this Section 3(C), or his successor, shall automatically terminate, and the authorized number of Directors shall automatically decrease by two, the rights of the holders of the shares of the Series C Preferred Stock to vote as provided in this Section 3(C) shall cease, subject to renewal from time to time upon the same terms and conditions, and the holders of shares of the Series C Preferred Stock shall have only the limited voting rights elsewhere herein set forth.

(D) Except as set forth herein, or as otherwise provided by law, holders of Series C Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with

holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Certain Restrictions.

(A) Whenever quarterly dividends or other dividends or distributions payable on the Series C Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series C Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends, or make any other distributions, on any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock;

(ii) declare or pay dividends, or make any other distributions, on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, except dividends paid ratably on the Series C Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such junior stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series C Preferred Stock; or

(iv) redeem or purchase or otherwise acquire for consideration any shares of Series C Preferred Stock, or any shares of stock ranking on a parity with the Series C Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board) to all holders of such shares upon such terms as the Board, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Reacquired Shares. Any shares of Series C Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and cancelled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock subject to the conditions and restrictions on issuance set forth herein, in the Certificate of Incorporation, or in any other Certificate of Designations creating a series of Preferred Stock or any similar stock or as otherwise required by law.

Section 6. Liquidation, Dissolution or Winding Up.

(A) Upon any liquidation, dissolution or winding up of the Corporation, no distribution shall be made (1) to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock unless, prior thereto, the holders of shares of Series C Preferred Stock shall have received $1,000 per share, plus an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment, provided that the holders of shares of Series C Preferred Stock shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1,000 times the aggregate amount to be distributed per share to holders of shares of Common Stock, or (2) to the holders of shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, except distributions made ratably on the Series C Preferred Stock and all such parity stock in proportion to the total amounts to which the holders of all such shares are entitled upon such liquidation, dissolution or winding up.

(B) Neither the consolidation, merger or other business combination of the Corporation with or into any other corporation nor the sale, lease, exchange or conveyance of all or any part of the property, assets or business of the Corporation shall be deemed to be a liquidation, dissolution or winding up of the Corporation for purposes of this Section 6.

(C) In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of paragraph (A) of this Section 6 shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the aggregate amount to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under the proviso in clause (1) of paragraph (A) of this Section 6 shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

Section 7. Consolidation, Merger, etc. Notwithstanding anything to the contrary contained herein, in case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case each share

of Series C Preferred Stock shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series C Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event. In the event the Corporation shall at any time declare or pay any dividend on the Series C Preferred Stock payable in shares of Series C Preferred Stock, or effect a subdivision, combination or consolidation of the outstanding shares of Series C Preferred Stock (by reclassification or otherwise than by payment of a dividend in shares of Series C Preferred Stock) into a greater or lesser number of shares of Series C Preferred Stock, then in each such case the amount set forth in the first sentence of this Section 7 with respect to the exchange or change of shares of Series C Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Series C Preferred Stock that were outstanding immediately prior to such event and the denominator of which is the number of shares of Series C Preferred Stock outstanding immediately after such event.

Section 8. No Redemption. The shares of Series C Preferred Stock shall not be redeemable.

Section 9. Rank. The Series C Preferred Stock shall rank, with respect to the payment of dividends and the distribution of assets, junior to all series of any other class of the Preferred Stock issued either before or after the issuance of the Series C Preferred Stock (including, without limitation, the Series A

Convertible Preferred Stock $.01 par value, of the Company established pursuant to the Certificate of Designation for Series A Convertible preferred Stock dated May 5, 1998), unless the terms of any such series shall provide otherwise.

Section 10. Amendment. At such time as any shares of Series C Preferred Stock are outstanding, the Certificate of Incorporation, as amended, of the Corporation shall not be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series C Preferred Stock so as to affect them adversely without the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series C Preferred Stock, voting together as a single class.

Section 11. Fractional Shares. Series C Preferred Stock may be issued in fractions of a share which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and have the benefit of all other rights of holders of Series C Preferred Stock.

IN WITNESS WHEREOF, this Certificate of Designations is executed on behalf of the Corporation by its Chief Executive Officer this 10th day of December, 2001.

HYBRIDON, INC.

By: /s/ Stephen R. Seiler
Name: Stephen R. Seiler
Title: Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES C JUNIOR PARTICIPATING PREFERRED STOCK

OF

HYBRIDON, INC.

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Hybridon, Inc., a corporation organized and existing under the Delaware General Corporation Law (the "Corporation") does hereby certify:

FIRST: In a Certificate of Designations filed with the Secretary of State of the State of Delaware on December 10, 2001, pursuant to Section 151 of the Delaware General Corporation Law, the Corporation was authorized to issue 100,000 shares of Series C Junior Participating Preferred Stock as a series of the Corporation's authorized Preferred Stock, par value $.01 per share; and

SECOND: The board of directors of the Corporation, by resolution adopted June 22, 2003, duly authorized and directed that the number of shares of the Corporation's Series C Junior Participating Preferred Stock be increased from 100,000 shares to 150,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized officer this 4th day of December, 2003.

By: /s/Stephen R. Seiler

Name: Stephen R. Seiler
Title: Chief Executive Officer

CERTIFICATE OF AMENDMENT

OF

RESTATED CERTIFICATE OF INCORPORATION

OF

HYBRIDON, INC.

Hybridon, Inc. (hereinafter called the "Corporation"), organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

By action of the Board of Directors of the Corporation at a meeting a resolution was duly adopted, pursuant to Section 242 of the General Corporation Law of the State of Delaware, setting forth amendments to the Certificate of Incorporation of the Corporation and declaring said amendments to be advisable. The stockholders of the Corporation duly approved said proposed amendments at a meeting in accordance with Section 242 of the General Corporation Law of the State of Delaware. The resolutions setting forth the amendments are as follows:

RESOLVED: That Section 2(a) of the Certificate of Designation of the Series A Convertible Preferred Stock of the Corporation filed on May 6, 1998 is hereby amended by deleting the reference to "6.5%" therein and inserting in lieu thereof "1.0%".

RESOLVED: That Section 3(a) of the Certificate of Designation of the Series A Convertible Preferred Stock of the Corporation filed on May 6, 1998 is hereby amended by deleting the first sentence of Section 3(a) in its entirety and inserting in lieu thereof the following sentence:

"3. Liquidation Preference. (a) In the event of a (i) liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, (ii) a sale or other disposition of all or substantially all of the assets of the Corporation or (iii) any consolidation, merger, combination, reorganization or other transaction in which the Corporation is not the surviving entity or shares of Common Stock constituting in excess of 50% of the voting power of the Corporation are exchanged for or changed into stock or securities of another entity, cash and/or any other property (a "Merger Transaction") (items (i), (ii) and (iii) of this sentence being collectively referred to as a "Liquidation Event"), after payment or provision for payment of debts and other liabilities of the Corporation, the holders of the Series A Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders, whether such assets are capital, surplus, or earnings, before any payment or declaration and setting apart for payment of any amount shall be made in respect of any Junior Stock of the Corporation, an amount equal to $1.00 per share (subject to appropriate adjustment in the event of any stock split, stock dividend, combination or other similar recapitalization affecting the Series A Preferred Stock), plus any dividends declared or accrued but unpaid on such shares; provided, however, in the case of a Merger Transaction, such payment may be made in cash, property (valued as provided in Subsection 3(b)) and/or securities (valued as provided in Subsection 3(b)) of the entity surviving such Merger Transaction."

RESOLVED: That Section 4(a) of the Certificate of Designation of the Series A Convertible Preferred Stock of the Corporation filed on May 6, 1998 is hereby amended by deleting the first paragraph of Section 4(a) in its entirety and inserting in lieu thereof the following paragraph:

"(a) Right of Conversion. Commencing after the expiration of 12 months following the Alternative Equity Closing Date (as hereinafter defined), but not prior thereto, the shares of Series A Preferred Stock shall be convertible, in whole or in part, at the option of the holder thereof and upon notice to the Corporation as set forth in Subsection 4(b), into fully paid and nonassessable shares of Common Stock and such other securities and property as hereinafter provided. The initial conversion price per share of Common Stock (the "Conversion Price"), shall be equal to the product of 2.125 multiplied by the per share price (the "Stated Common Price") of Common Stock sold by the Corporation in connection with the Alternative Equity Offering (as such term is defined in the Corporation's Offer to Exchange dated February 6, 1998 (the "Original Offer to Exchange"), as amended by the Amendment thereto (the "Amendment") dated March 30, 1998 (collectively, the "Offer to Exchange")) and shall be subject to adjustment as provided herein. The rate at which each share of Series A Preferred Stock is convertible at any time into Common Stock (the "Conversion Rate") shall be determined by dividing the then existing Conversion

Price (determined in accordance with this Section 4, including the last paragraph hereof) into the Dividend Base Amount; provided, however, that, during the period beginning on the date of the filing of this Certificate of Amendment and ending on the date 60 days after the date of the filing of this Certificate of Amendment (the "Early Conversion Period"), the Conversion Rate shall be determined by dividing the Conversion Price (in effect as of the first day of the Early Conversion Period) into an amount equal to 125% of the Dividend Base Amount. For illustrative purposes only, if the Conversion Price equals $4.25 and the Dividend Base Amount equals $100.00, then each share of Series A Preferred Stock will be convertible into 23.53 shares of Common Stock ($100.00 / $4.25); provided, however, that during the Early Conversion Period, each share of Series A Preferred Stock will be convertible into 29.41 shares of Common Stock ($125.00 / $4.25)."

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its authorized officer on the 4th day of December, 2003.

By: /s/Stephen R. Seiler

Name: Stephen R. Seiler
Title: Chief Executive Officer

CERTIFICATE OF AMENDMENT
TO THE
RESTATED CERTIFICATE OF INCORPORATION
OF
HYBRIDON, INC.

Hybridon, Inc. (hereinafter called the "Corporation"), organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

At a meeting of the Board of Directors of the Corporation a resolution was duly adopted, pursuant to Section 242 of the General Corporation Law of the State of Delaware, setting forth an amendment to the Restated Certificate of Incorporation of the Corporation, as amended to date (the "Certificate of Incorporation"), and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment in accordance with Section 242 of the General Corporation Law of the State of Delaware at a meeting of stockholders held on June 24, 2004. The resolution setting forth the amendment is as follows:

RESOLVED: That the first paragraph of Article FOURTH of the Certificate of Incorporation be and hereby is amended and restated in its entirety so that the same shall read as follows:

> "FOURTH. The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) One Hundred Eighty Five Million (185,000,000) shares of Common Stock, $.001 par value per share ("Common Stock"), and (ii) Five Million (5,000,000) shares of Preferred Stock, $.01 par value per share ("Preferred Stock"), which may be issued from time to time in one or more series as set forth in Part B of this Article FOURTH."

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its Chief Executive Officer on this 25th day of June 2004.

HYBRIDON, INC.

/s/ Stephen R. Seiler

Name: Stephen R. Seiler
Title: Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES C JUNIOR PARTICIPATING PREFERRED STOCK

OF

HYBRIDON, INC.

(Pursuant to Section 151(g) of the
Delaware General Corporation Law)

Hybridon, Inc., a corporation organized and existing under the Delaware General Corporation Law (the "Corporation") does hereby certify:

FIRST: In a Certificate of Designations filed with the Secretary of State of the State of Delaware on December 10, 2001, pursuant to Section 151 of the Delaware General Corporation Law, the Corporation was authorized to issue 100,000 shares of Series C Junior Participating Preferred Stock as a series of the Corporation's authorized Preferred Stock, par value $.01 per share;

SECOND: In a Certificate of Increase filed with the Secretary of State of the State of Delaware on December 4, 2003, pursuant to Section 151 of the Delaware General Corporation Law, the number of authorized shares of the Corporation's Series C Junior Participating Preferred Stock was increased from 100,000 to 150,000; and

THIRD: The board of directors of the Corporation, by resolution adopted March 15, 2005, duly authorized and directed that the number of authorized shares of the Corporation's Series C Junior Participating Preferred Stock be increased from 150,000 shares to 185,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized officer this 24th day of March, 2005.

By: /s/ Sudhir Agrawal

Name: Sudhir Agrawal, D. Phil
Title: Chief Executive Officer, President and Chief Scientific Officer

CERTIFICATE OF AMENDMENT

TO THE

RESTATED CERTIFICATE OF INCORPORATION

OF

HYBRIDON, INC.

Hybridon, Inc. (hereinafter called the "Corporation"), organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

At a meeting of the Board of Directors of the Corporation a resolution was duly adopted, pursuant to Section 242 of the General Corporation Law of the State of Delaware, setting forth an amendment to the Restated Certificate of Incorporation of the Corporation, as amended to date (the "Certificate of Incorporation"), and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment in accordance with

Section 242 of the General Corporation Law of the State of Delaware at a meeting of stockholders held on June 15, 2005. The resolution setting forth the amendment is as follows:

RESOLVED: That the first paragraph of Article FOURTH of the Certificate of Incorporation be and hereby is amended and restated in its entirety so that the same shall read as follows:

"FOURTH. The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) Two Hundred Million (200,000,000) shares of Common Stock, $.001 par value per share ("Common Stock"), and (ii) Five Million (5,000,000) shares of Preferred Stock, $.01 par value per share ("Preferred Stock"), which may be issued from time to time in one or more series as set forth in Part B of this Article FOURTH."

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its Chief Executive Officer on this 17th day of June 2005.

HYBRIDON, INC.

/s/ Sudhir Agrawal

Name: Sudhir Agrawal
Title: Chief Executive Officer

CERTIFICATE OF INCREASE

OF

SERIES C JUNIOR PARTICIPATING PREFERRED STOCK

OF

HYBRIDON, INC.

(Pursuant to Section 151(g) of the Delaware General Corporation Law)

Hybridon, Inc., a corporation organized and existing under the Delaware General Corporation Law (the "Corporation") does hereby certify:

FIRST: In a Certificate of Designations filed with the Secretary of State of the State of Delaware on December 10, 2001, pursuant to Section 151 of the Delaware General Corporation Law, the Corporation was authorized to issue 100,000 shares of Series C Junior Participating Preferred Stock as a series of the Corporation's authorized Preferred Stock, par value $.01 per share;

SECOND: In a Certificate of Increase filed with the Secretary of State of the State of Delaware on December 4, 2003, pursuant to Section 151 of the Delaware General Corporation Law, the number of authorized shares of the Corporation's Series C Junior Participating Preferred Stock was increased from 100,000 to 150,000;

THIRD: In a Certificate of Increase filed with the Secretary of State of the State of Delaware on March 24, 2005, pursuant to Section 151 of the Delaware General Corporation Law, the number of authorized shares of the Corporation's Series C Junior Participating Preferred Stock was increased from 150,000 to 185,000; and

FOURTH: The board of directors of the Corporation, by resolution adopted March 15, 2005, duly authorized and directed that, effective as of June 15, 2005, the number of authorized shares of the Corporation's Series C Junior Participating Preferred Stock be increased from 185,000 shares to 200,000 shares.

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Increase to be signed by its duly authorized officer this 21st day of June 2005.

By: /s/ Robert G. Andersen

Name: Robert G. Andersen
Title: Chief Financial Officer

EXECUTION COPY

Exhibit 10.1

Confidential Materials omitted and filed separately with the Securities and Exchange Commission. Asterisks denote omissions.

RESEARCH COLLABORATION AND OPTION AGREEMENT

by and between

HYBRIDON, INC.

and

NOVARTIS INTERNATIONAL PHARMACEUTICAL LTD.

RESEARCH COLLABORATION AND OPTION AGREEMENT

This Research Collaboration and Option Agreement (this "Agreement") is made this 31st day of May, 2005 (the "Effective Date") by and between Hybridon, Inc., a Delaware corporation with principal offices at 345 Vassar Street, Cambridge, Massachusetts 02139 ("Hybridon") and Novartis International Pharmaceutical Ltd., a Bermuda corporation with principal offices at Hurst Holme 12, Trott Road, Hamilton, HM11 Bermuda ("Novartis"). Hybridon and Novartis are sometimes referred to herein individually as a "Party" or collectively as the "Parties."

Capitalized terms used but not defined in this Agreement shall have the meanings provided in the License, Development and Commercialization Agreement by and between Hybridon and Novartis of even date herewith (the "License Agreement").

INTRODUCTION

WHEREAS, Hybridon possesses expertise in discovering and developing novel therapeutics based on IMO (as defined below) compounds;

WHEREAS, Novartis and its Affiliates (as defined below) possess expertise in discovering, developing, manufacturing, marketing and selling pharmaceuticals worldwide;

WHEREAS, the Parties desire to enter into a collaboration with the objective of identifying IMO Candidates and generating IMO Leads (each of "IMO Candidates" and "IMO Leads" as defined below) for use in the Research Field of Use (the "Collaboration"); and

WHEREAS, the Parties are entering into the License Agreement, pursuant to which Novartis and its Affiliates shall have an exclusive license to commercialize Products based on certain of the IMO Candidates in the Commercial Field of Use upon the terms set forth in the License Agreement if Novartis exercises its Commercialization Option hereunder (each of "Affiliates," "Commercial Field of Use," "Commercialization Option," "License Agreement," "Products," and "Research Field of Use" as defined below);

NOW THEREFORE, in consideration of the mutual covenants set forth in this Agreement, and other good and valuable consideration, the Parties agree as follows:

ARTICLE I

DEFINITIONS

1.1. "ACCEPTANCE CRITERIA" shall mean the specifications for IMO Candidates for acceptance into the CSP Phase set forth in the Research Plan.

1.2. "ACQUISITION INTELLECTUAL PROPERTY" shall mean (a) Patents or Know-How held or otherwise controlled by an Acquisition Affiliate immediately prior to the Acquisition Event between Hybridon and such Acquisition Affiliate

(as defined in Section 1.3 below), other than Patents that do not specifically relate to drug delivery or formulation technology held or otherwise controlled by any such Acquisition Affiliate that would, but for a license granted hereunder, be infringed by the development or commercialization of IMO Candidates or IMO Leads and (b) Patents or Know-How developed or acquired and controlled by an Acquisition Affiliate after the Acquisition Event between Hybridon and such Acquisition Affiliate that specifically relate to drug delivery or formulation technology, which Patents or Know-How are not developed or acquired through the use of, or as an improvement to, any Hybridon Intellectual Property or Hybridon Background Intellectual Property Controlled (other than through an Acquisition Affiliate) by Hybridon.

1.3. "ACQUISITION EVENT" shall mean any merger or other acquisition between Hybridon and a Third Party occurring after the Effective Date and pursuant to which such Third Party becomes an Affiliate of Hybridon, so long as following such merger or acquisition Hybridon does not control and is not merged with or into such Affiliate (an "Acquisition Affiliate").

1.4. "ADDITIONAL INDICATION" shall have the meaning set forth in Section 4.1 of the License Agreement.

1.5. "AFFILIATE" means any Person who directly or indirectly controls or is controlled by or is under common control with a Party. For purposes of this definition, "control" or "controlled" means ownership directly or through one or more Affiliates, of fifty percent (50%) or more of the shares of stock entitled to vote for the election of directors, in the case of a corporation, or fifty percent (50%) or more of the equity interest in the case of any other type of legal entity, status as a general partner in any partnership, or any other arrangement whereby a

Party controls or has the right to control the Board of Directors or equivalent governing body of a corporation or other entity, or the ability to cause the direction of the management or policies of a corporation or other entity. The Parties acknowledge that in the case of certain entities organized under the laws of certain countries outside of the United States, the maximum percentage ownership permitted by law for a foreign investor may be less than fifty percent (50%), and that in such case such lower percentage shall be substituted in the preceding sentence, provided, that such foreign investor has the power to direct the management and policies of such entity. For the purposes of this Agreement, Novartis Institute for Functional Genomics, Inc. and Friedrich Miescher Institute for Biomedical Research shall be deemed to be Affiliates of Novartis.

1.6. "CHEMICALLY MODIFY" OR "CHEMICAL MODIFICATION" shall mean the modification of an IMO that [**].

1.7. "COLLABORATION" shall have the meaning set forth in the preamble to this Agreement.

1.8. "COMMERCIAL FIELD OF USE" shall mean the prophylaxis, palliation, diagnosis and treatment of the Initial Indications and Additional Indications by Products via any route of administration.

1.9. "COMMERCIALIZATION EXERCISE NOTICE" shall have the meaning set forth in Section 4.2.2 hereof.

1.10. "COMMERCIALIZATION OPTION" shall have the meaning set forth in Section 4.2.1 hereof.

1.11. "CONFIDENTIAL INFORMATION" shall have the meaning set forth in Section 5.1 hereof.

1.12. "CONSUMER PRICE INDEX" shall mean the Consumer Price Index - Urban Wage Earners and Clerical Workers, U.S. City Average, All Items, 1982-84 = 100, published by the United States Department of Labor, Bureau of Labor Statistics (or its successor equivalent index).

1.13. "CONTROLLED" shall mean, with respect to intellectual property, the legal authority of a Party (either directly or through an Affiliate) to grant the licenses or sublicenses of

intellectual property rights as and to the extent provided herein, or to otherwise disclose proprietary or trade secret information as and to the extent provided herein, without breaching the terms of any agreement with a Third Party, knowingly infringing upon the intellectual property rights of a Third Party, or misappropriating the proprietary or trade secret information of a Third Party.

1.14. "CRITICAL ISSUE" shall have the meaning set forth in Section 2.5.2 hereof.

1.15. "CSP PHASE RESEARCH" shall have the meaning set forth in Section 2.3.2 hereof.

1.16. "EFFECTIVE DATE" shall mean the effective date of this Agreement as set forth on the first page hereof.

1.17. "EPIGENESIS" shall mean EpiGenesis Pharmaceuticals, Inc.

1.18. "EPIGENESIS AGREEMENT" shall mean that certain Development and License Agreement, dated as of August 9, 2000, between Hybridon and EpiGenesis.

1.19. "EXCLUDED ANTISENSE IP" shall mean oligonucleotides or oligonucleotide analogs or mimics thereof that (a) are targeted to a specific sequence of RNA and (b) the primary mechanism of action of which is to hybridize to such sequence of RNA and through such hybridization to modulate the production of the targeted gene product, provided, that such oligonucleotides or oligonucleotide analogs or mimics thereof [**] proprietary to Hybridon[**].

1.20. "EXTENDED RENEWAL PERIOD" shall have the meaning set forth in Section 2.1.3 hereof.

1.21. "FDA" shall mean the United States Food and Drug Administration, and any successor agency serving the same function.

1.22. "FPFV" shall mean the first visit of the first patient or first healthy human volunteer participating in a clinical trial with respect to an IMO Lead.

1.23. "FTE" shall mean the equivalent of the work of one (1) Hybridon scientist or other Hybridon project managerial professional, full time for one year, which equates to a total of [**] weeks or [**] hours per year on or directly related to the Research Program and shall exclude (a) managerial activities (other than project and research management activities as

described below) and (b) assistance with the manufacturing and supply activities described in Sections 2.3.2(b) and 2.3.3(b) hereof. Work on or directly related to the Research Program may include, but is not limited to, experimental laboratory work, work related to Proof of Concept studies, project and research management, activities directed toward evaluation of the commercial potential of an IMO Candidate, recording and writing up results, reviewing literature and references, holding scientific discussions, and carrying out JRC duties.

1.24. "FTE RATE" shall mean a rate of [**] U.S. Dollars (U.S. $[**]) per FTE, to be prorated on a daily basis if necessary (per annum amount to be divided by [**] to produce the rate per whole day consisting of [**]). For the avoidance of doubt, such rate shall include all travel expenses, which shall not be invoiced separately. For each calendar year commencing with the 2007 calendar year, the FTE Rate shall be subject to cost of living increases on an annual basis, based on the increase in the Consumer Price Index as of the then most recent December 31 over the Consumer Price Index on December 31, 2004, it being understood that the FTE Rate to be used as the basis for each such increase, if any, shall be $[**], and not the most recent FTE Rate then in effect.

1.25. "HYBRIDON BACKGROUND INTELLECTUAL PROPERTY" shall mean all Patents and Know-How Controlled by Hybridon as of the Effective Date or at any time during the Term that are necessary or useful for the Parties or their Affiliates or sublicensees to exploit the licenses contemplated or to carry out the activities contemplated hereunder and that are not otherwise Hybridon Intellectual Property or Joint Intellectual Property. Notwithstanding the foregoing, "Hybridon Background Intellectual Property" shall exclude any Acquisition Intellectual Property.

1.26. "HYBRIDON INTELLECTUAL PROPERTY" shall mean all Hybridon Patents and Hybridon Know-How, but explicitly excluding Joint Intellectual Property and any Acquisition Intellectual Property.

1.27. "HYBRIDON KNOW-HOW" shall mean all Know-How Controlled by Hybridon relating to the IMO Candidates and IMO Leads but explicitly excluding Joint Know-How and any Know-How included in the Acquisition Intellectual Property, as of the Effective Date or at any time during the Term.

1.28. "HYBRIDON PATENTS" shall mean any Patents Controlled by Hybridon that would, but for a license granted hereunder, be infringed by making, having made, using, having used, researching, having researched, developing, having developed, commercializing, having commercialized, manufacturing, having manufactured, promoting, having promoted, selling, having sold, distributing, having distributed, marketing, having marketed, importing, having imported, exporting or having exported IMO Candidates or IMO Leads, but explicitly excluding Joint Patents and any Patents included in the Acquisition Intellectual Property, as in effect on the Effective Date or at any time during the Term. The Hybridon Patents are set forth on Schedule 1.28 hereto, as amended from time to time.

1.29. "IMO" shall mean an immunomodulatory oligonucleotide containing a motif proprietary to Hybridon and designed to agonize toll-like receptor 9 (directly or indirectly) for the primary purpose of inducing or modulating an immune response.

1.30. "IMO CANDIDATE" shall mean an IMO supplied by Hybridon in accordance with Section 2.3.1(a) and that is designated by Novartis, in its sole discretion, as meeting the Acceptance Criteria and for inclusion in the CSP Phase Research.

1.31. "IMO LEAD" shall have the meaning set forth in Section 2.3.2 hereof and shall include any Improvements thereto. IMO Leads shall continue to be IMO Candidates for purposes hereof.

1.32. "IMPROVEMENTS" shall mean any enhancements to the formulation, ingredients, preparations, presentation, means of delivery, dosage, packaging, or manufacturing process of an IMO Lead, IMO Candidate or Product, but excluding as to all of the foregoing any Chemical Modification to an IMO Lead, IMO Candidate or the IMO Lead or IMO Candidate component of a Product. For the avoidance of doubt, any salt form of an IMO Lead, IMO Candidate or IMO included in a Product shall be deemed an Improvement for purposes hereof.

1.33. "INDEMNIFIED PERSON" shall have the meaning set forth in Section 7.3 hereof.

1.34. "INDEMNIFYING PARTY" shall have the meaning set forth in Section 7.3 hereof.

1.35. "INITIAL INDICATIONS" shall mean all human allergic and/or respiratory diseases, but specifically excluding oncology and infectious diseases (other than cystic fibrosis, asthma

and chronic obstructive pulmonary disease pathologies, in each case resulting from infectious diseases) and systemic autoimmune diseases.

1.36. "INITIAL RESEARCH TERM" shall have the meaning set forth in Section 2.1.1 hereof.

1.37. "INVOICE" shall mean an invoice in the form attached hereto as Schedule 1.37.

1.38. "JOINT INTELLECTUAL PROPERTY" shall mean Joint Know How and Joint Patents.

1.39. "JOINT KNOW-HOW" shall mean all Know-How developed, produced, or identified jointly by Hybridon and Novartis or their respective Affiliates pursuant to the Research Program and/or under the Research Plan including, but

not limited to, such Know-How related to joint Improvements or to the identification, generation, modification and/or characterization of IMO Candidates and IMO Leads made jointly by the Parties.

1.40. "JOINT PATENTS" shall mean all Patents for inventions conceived jointly by Hybridon and Novartis or their respective Affiliates that arise out of the activities performed under the Research Program including, but not limited to, inventions relating to joint Improvements or to the identification, generation, modification and/or characterization of IMO Candidates and IMO Leads made jointly by the Parties. After the filing of the first Joint Patent, if any, a list of Joint Patents shall be appended hereto as Schedule 1.40, which will be updated periodically to reflect additional Joint Patents thereafter.

1.41. "JRC" shall have the meaning set forth in Section 2.4 hereof.

1.42. "KNOW-HOW" shall mean all data, technical information, material, experience, know-how, inventions (whether or not patented), trade secrets, processes and methods in any form discovered, developed or applied (with the consent of its owner) and Controlled by either Party or its Affiliates, excluding Patents.

1.43. "LICENSE AGREEMENT" shall have the meaning set forth in the preamble to this Agreement.

1.44. "LOSS" shall have the meaning set forth in Section 7.1 hereof.

1.45. "NOVARTIS INTELLECTUAL PROPERTY" shall mean all Novartis Patents and Novartis Know-How, but explicitly excluding Joint Intellectual Property.

1.46. "NOVARTIS KNOW-HOW" shall mean all Know-How relating to immunomodulatory oligonucleotides Controlled by Novartis on the Effective Date or at any time during the Term, but explicitly excluding Joint Know-How, Hybridon Intellectual Property and Hybridon Background Intellectual Property.

1.47. "NOVARTIS PATENTS" shall mean any Patents relating to immunomodulatory oligonucleotides Controlled by Novartis on the Effective Date or at any time during the Term, but explicitly excluding Joint Patents, Hybridon Intellectual Property and Hybridon Background Intellectual Property.

1.48. "NOVARTIS RESEARCH LICENSE" shall have the meaning set forth in Section 4.1.2 hereof.

1.49. "OPTION TERM" shall mean the Research Term and a period of [**] thereafter, provided that in no event shall the Option Term extend beyond the date that is [**] after the Effective Date without the consent of Hybridon, which consent shall not be unreasonably withheld.

1.50. "PATENTS" shall mean all existing patents and patent applications and all patent applications hereafter filed, including any continuation, continuation-in-part, divisional, provisional or any substitute applications, any patent issued with respect to any such patent applications, any reissue, reexamination, renewal or extension (including any supplementary protection certificate) of any such patent, and any confirmation patent or registration patent or patent of addition based on any such patent, and all foreign counterparts of any of the foregoing.

1.51. "PERSON" shall mean any individual, corporation, partnership, association, joint-stock company, trust, unincorporated organization or government or political subdivision thereof.

1.52. "PROOF OF CONCEPT" shall mean the scientific study of the mechanism of action of an IMO Lead conducted in man, which supports Novartis' decision-making about the value of the IMO Lead as a development candidate.

1.53. "POC PHASE RESEARCH" shall mean research related to the technical development of IMO Leads leading to human clinical trials, as well as all human clinical trials through the end of Proof of Concept clinical trials.

1.54. "PRODUCT" shall mean a pharmaceutical product including, conjugated

to, or comprised of an IMO Lead with or without other active ingredients in finished dosage form, ready for administration to the ultimate consumer, and any Improvements thereto.

1.55. "PROVIDING PARTY" shall have the meaning set forth in Section 5.1 hereof.

1.56. "RECEIVING PARTY" shall have the meaning set forth in Section 5.1 hereof.

1.57. "RENEWAL NOTICE" shall have the meaning set forth in Section 2.1.2 hereof.

1.58. "RENEWAL PERIOD" shall have the meaning set forth in Section 2.1.2 hereof.

1.59. "RESEARCH COSTS" shall mean all research costs (internal or external, including manufacturing costs) incurred by a Party in performing such Party's obligations under the Research Program in accordance with the Research Plan, and, in the case of Hybridon, any such costs not contemplated by the Research Plan for which Hybridon has obtained prior written approval from Novartis which are evidenced by a written invoice, contract or other document provided by a Third Party.

1.60. "RESEARCH FIELD OF USE" shall mean the prophylaxis, palliation, diagnosis and treatment of human diseases by pharmaceutical products via any route of administration.

1.61. "RESEARCH PLAN" shall have the meaning set forth in Section 2.2.1 hereof.

1.62. "RESEARCH PROGRAM" shall mean all research activities undertaken under this Agreement associated with the identification, generation, modification and/or characterization of IMO Candidates and IMO Leads, including, without limitation, all CSP Phase Research activities, which shall be performed in connection with the Research Plan.

1.63. "RESEARCH TERM" shall have the meaning set forth in Section 2.1.1 hereof.

1.64. "SUBSTITUTE IMO LEAD" shall mean any IMO Candidate chosen by Novartis as a substitute for an abandoned IMO Lead. Substitute IMO Leads, if any, shall be considered IMO Leads for all purposes hereof, and all references to the term "IMO Lead" shall be deemed to include any and all Substitute IMO Leads. Abandoned IMO Leads shall, upon abandonment, cease to be IMO Leads but shall remain IMO Candidates.

1.65. "TERM" shall have the meaning set forth in Section 9.1 hereof.

1.66. "TERRITORY" shall mean the entire world.

1.67. "TEST SAMPLE" shall have the meaning set forth in Section 2.3.1 hereof, but shall exclude the following immunomodulatory oligonucleotides: [**].

1.68. "THIRD PARTY" shall mean any Person that is not a Party or an Affiliate of either Party.

ARTICLE II

RESEARCH PROGRAM

2.1. RESEARCH TERM.

2.1.1. Initial Research Term. The initial term of the Research Program will commence on the Effective Date and continue for a period of two (2) years, unless earlier terminated in accordance with the provisions hereof (the "Initial Research Term"). The Initial Research Term, together with any and all extensions under Section 2.1.2, 2.1.3, or 2.1.4, shall be referred to as the "Research Term."

2.1.2. Extension of Research Term. Unless earlier terminated in accordance with the provisions hereof, the Research Term may be extended

beyond the Initial Research Term for [**] (the "Renewal Period"), in the sole discretion of Novartis, upon the provision of written notice to Hybridon not later than [**] prior to the end of the Initial Research Term ("Renewal Notice").

2.1.3. Extension in Event of PoC Phase Research Clinical Trial or Volunteer Study Clinical Trial. In the event that Novartis extends the Research Term in accordance with Section 2.1.2 and an active clinical trial that is part of PoC Phase Research is ongoing at the end of the Renewal Period, the term of the Research Program will automatically extend until completion of (a) such clinical trial that is part of such PoC Phase Research, if such clinical trial is designed to establish Proof of Concept, or (b) in the case of such clinical trial that is part of PoC Phase Research but that is not designed to establish Proof of Concept, the related clinical trial that is part of PoC Phase Research and that is designed to establish Proof of Concept (the

"Extended Renewal Period"); provided that in no event shall the Extended Renewal Period or the Option Term extend beyond the date that is [**] after the Effective Date without the consent of Hybridon, which consent shall not be unreasonably withheld.

2.1.4. Continuation of Research Program Upon Option Exercise. In the event that Novartis exercises the Commercialization Option, this Agreement shall, subject to the following sentence or as otherwise specified herein, continue in accordance with its terms (including, without limitation, the provisions of Section 2.3.3(b) hereof) and shall remain in effect until the date that is [**] after the Effective Date or such longer period to which Hybridon consents (which consent shall not be unreasonably withheld), unless earlier terminated in accordance with the provisions hereof. Beginning upon the Effective Date of the License Agreement, the PoC Phase Research to be performed pursuant to Section 2.3.3(a) hereof shall be performed under, and governed by the terms of, the License Agreement.

2.2. RESEARCH PLAN.

2.2.1. Research Plan. Attached as Schedule 2.2.1 hereto is an initial work plan identifying: (a) the Acceptance Criteria; (b) the responsibilities of each Party with respect to research to be conducted prior to the CSP Phase Research; and (c) the appropriate resources of each Party to be committed with respect to research to be conducted prior to the CSP Phase Research. No later than [**] after the Effective Date, Novartis, in consultation with Hybridon, will prepare an overall research plan for the CSP Phase Research to be conducted pursuant to the Research Program identifying: (i) the Acceptance Criteria; (ii) the responsibilities of each Party with respect to the CSP Phase Research to be conducted; (iii) the appropriate resources of each Party to be committed with respect to the CSP Phase Research; and (iv) the research activities, studies, developmental milestones, performance criteria, and timeframes for work to be completed by each Party with respect to the CSP Phase Research), which the Parties will submit to the JRC for final approval at the first meeting of the JRC (such research plan, as approved by the JRC and as amended from time-to-time, the "Research Plan," except that any changes to the Acceptance Criteria must be made upon the mutual written consent of the Parties, such consent not to be unreasonably withheld). The Research Plan and any amendments thereto shall be included on Schedule 2.2.1 hereto.

2.2.2. Plan Review. The Research Plan will be reviewed and approved by the JRC shortly after the Effective Date. The JRC may modify the Research Plan as appropriate; provided, that no modified Research Plan shall impose substantial resource and/or financial obligations on Hybridon in addition to those obligations set forth in the initial Research Plan without Hybridon's consent. Any disagreements between the Parties with respect to modification of the Research Plan will, subject to the proviso in the immediately preceding sentence, be resolved in accordance with Section 2.5 of this Agreement.

2.3. RESEARCH PROGRAM.

2.3.1. Commencement.

(a) Within [**] of the Effective Date, Hybridon, at its own cost,

shall generate and supply to Novartis a sufficient number and quantity of IMOs (each a "Test Sample"), to allow evaluation of such Test Samples by the Parties in various in vitro or in vivo assays. In order to facilitate the goals and purposes of the Research Program, Hybridon shall use commercially reasonable efforts to supply Novartis with Test Samples of those IMOs which, in Hybridon's judgment, have the greatest chance (as compared to other IMOs) of meeting the Acceptance Criteria. Each such Test Sample shall be accompanied by all data generated by Hybridon with respect thereto and shall not be required to be materially in excess of the quantity necessary to complete such assays (currently estimated to be up to approximately five (5) grams of each IMO). Based on the results of its evaluation, Novartis, in its discretion, which is reasonably exercised, shall determine whether the Test Samples meet the Acceptance Criteria. From those Test Samples meeting the Acceptance Criteria, Novartis shall, in its sole discretion, identify up to [**] IMO Candidates to be included within the CSP Phase Research. Hybridon's obligation to provide IMOs pursuant to this Section 2.3.1(a) shall be satisfied once Hybridon supplies, in accordance with this Section 2.3.1, Test Samples for IMOs, [**] of which Novartis has determined, in its discretion, which is reasonably exercised, meet the Acceptance Criteria; provided that, if, during the Research Term Novartis

requests that Hybridon generate or supply modified or additional IMOs in response to scientific results that Novartis generates during the Research Program, Hybridon shall use commercially reasonable efforts to provide up to [**] additional IMOs, including Test Samples thereof, at Hybridon's expense.

(b) The JRC shall direct the conduct of activities under the Research Plan, and Hybridon and Novartis shall collaborate in the conduct of activities under the Research Plan with the Parties having the roles and responsibilities specified in the Research Plan, all as may be deemed appropriate by the JRC. The JRC shall review and coordinate the efforts of the Parties with respect to the Research Plan.

2.3.2. CSP Phase Research.

(a) During the phase of the Research Program culminating in the candidate selection point (the "CSP Phase Research"), the Parties shall evaluate up to [**] IMO Candidates in various in vitro screens and in vivo models such as those described on Schedule 2.3.2 hereof and shall identify IMO Candidates to be included in the PoC Phase Research to be performed under this Agreement (each an "IMO Lead"). Novartis may designate one or more of the IMO Candidates as IMO Leads, but shall not be obligated to include any such IMO Leads in PoC Phase Research to be performed under this Agreement. Notwithstanding the foregoing, in the event Novartis abandons development of an IMO Lead, Novartis may designate a Substitute IMO Lead and advance the Substitute IMO Lead in place of the abandoned IMO Lead.

(b) Hybridon shall cooperate with Novartis and any Third Party supplier retained by Novartis, in Novartis' sole discretion, to enable Novartis and/or such Third Party supplier to manufacture and supply IMO Candidates meeting Novartis' specifications for use in the CSP Phase Research. Hybridon shall provide to Novartis and any Third Party supplier all

technical information and Hybridon Know-How necessary or useful to allow Novartis and/or such Third Party supplier to manufacture the IMO Candidates. Hybridon will make available to Novartis those persons that are subject to Hybridon's

control with technical information or necessary or useful expertise to assist Novartis and/or the Third Party supplier with the manufacturing process. Hybridon will not charge Novartis for any costs associated with the performance of its obligations under this Section 2.3.2(b), including, without limitation, the time spent by Hybridon personnel in providing assistance to Novartis and/or any Third Party supplier. Other than as set forth in this Section 2.3.2(b), Novartis shall be responsible for the costs of such supply and all other contractual obligations to such Third Party supplier.

(c) Novartis management will determine, in its reasonable discretion, whether an IMO meets the Acceptance Criteria. In addition, Novartis management will determine, in its sole discretion, whether to terminate the CSP Phase Research with respect to any particular IMO Candidate, whether the CSP Phase Research has been successfully completed and which, if any, of the IMO Candidates to designate as IMO Leads.

2.3.3. PoC Phase Research.

(a) In the event that Novartis designates one or more IMO Lead(s), Novartis will conduct PoC Phase Research on such IMO Lead(s), including, without limitation, studies regarding [**], with at least the primary clinical endpoints for such PoC Phase Research to be determined by the JRC. Novartis will make all regulatory filings in Europe, the U.S. and/or any other jurisdictions necessary to conduct the PoC Phase Research under this Agreement. Novartis shall, for informational purposes only, periodically share information with the members of the JRC regarding the status of the PoC Phase Research performed under this Agreement and summaries of the results thereof. Novartis management will determine, in its sole discretion, whether to continue or cease the PoC Phase Research being conducted

under this Agreement with respect to any IMO Lead and whether to put forward a Substitute IMO Lead in lieu thereof, in which case Novartis shall notify Hybridon of the same in writing.

(b) Hybridon shall cooperate with Novartis and any Third Party supplier retained by Novartis, in Novartis' sole discretion, to enable Novartis and/or such Third Party supplier to manufacture and supply IMO Candidates meeting Novartis' specifications for use in the PoC Phase Research. Hybridon shall provide to Novartis and any Third Party supplier all technical information and Hybridon Know-How necessary or useful to allow Novartis and/or such Third Party supplier to manufacture the IMO Candidates. Hybridon will make available to Novartis those persons that are subject to Hybridon's control with technical information or necessary or useful expertise to assist Novartis and/or the Third Party supplier with the manufacturing process. Hybridon will not charge Novartis for any costs associated with the performance of its obligations under this Section 2.3.3(b), including, without limitation, the time spent by Hybridon personnel in providing assistance to Novartis and/or any Third Party supplier. Other than as set forth in this Section 2.3.3(b), Novartis shall be responsible for the costs of such supply and all other contractual obligations to such Third Party supplier.

2.3.4. Research Diligence. Hybridon shall use commercially reasonable efforts to fulfill its obligations under the Research Program and Research Plan. Novartis shall use commercially reasonable efforts, similar to those used by Novartis or its Affiliates in the research and development of other products of Novartis or its Affiliates that are of similar commercial potential and at a similar stage of research or development, to fulfill its obligations under the Research Plan and the Research Program.

2.3.5. Submission of Reports. Upon achieving, or failing to achieve, each scientific or technical milestone specified in the Research Plan, Hybridon and Novartis will complete and present to the JRC a report containing

detailed summaries of the data related to such milestone. For purposes thereof, each Party shall provide (or request its Affiliates to

provide) to the other Party any necessary information (including, without limitation, Confidential Information) as may be reasonably required to perform its obligations under this Agreement.

2.4. JOINT RESEARCH COMMITTEE. Upon execution of this Agreement, Hybridon and Novartis will establish a joint research committee ("JRC"), which shall consist of an equal number of executives or scientists as may be designated by each Party from time to time. The JRC shall initially have six (6) members, with each Party having the right to appoint three (3) members. Novartis shall have the right to appoint one of its members as the JRC Committee Chair. The JRC shall hold its first meeting within [**] of the Effective Date. Thereafter, the JRC shall meet quarterly, or with such other frequency as may be established by the JRC (but in no event less often than three (3) times per year), and at such time and location as may be established by the JRC. The JRC shall have the following responsibilities:

(a) Provide general oversight of, direct the conduct of, and review and coordinate the efforts of the Parties with respect to, the Research Plan, and monitor the progress of the activities carried out pursuant to the Research Plan;

(b) Periodically review the overall goals and strategy of the activities to be conducted under the Research Plan;

(c) Subject to Section 2.2.2, identify the number of FTEs required for activities to be conducted under the Research Plan and prioritize the allocation of resources dedicated to the Research Plan (including FTEs);

(d) Subject to Section 2.2.2, approve and revise, as appropriate, the Research Plan;

(e) Revise, as appropriate, performance milestones (other than milestones the achievement of which are the basis for payments to Hybridon under this Agreement or the License Agreement);

(f) Review and edit proposed publications related to the Research Plan and/or the Collaboration;

(g) Subject to Sections 2.2.1, 2.2.2 and 2.5.2, revise, as appropriate, the

Acceptance Criteria;

(h) Resolve any disagreement between the Parties, and discuss and resolve any other relevant issues submitted to it, in accordance with the dispute resolution procedure set forth in Section 2.5 below.

The JRC shall have the authority to create teams for individual projects, each of which will meet (via telephone or video conference or in person) no less frequently than monthly, and which will report to the JRC on its progress on activities performed with respect to such project. In addition, the JRC shall also have the authority to create subcommittees as needed. Notwithstanding the foregoing, the Parties acknowledge that the JRC shall not have the authority to amend or modify the terms or conditions of this Agreement. The JRC shall survive until expiration or termination of this Agreement.

2.5. DECISIONS OF THE JRC; RESOLUTION OF DISPUTES.

2.5.1. Decisions of the JRC. Each of Hybridon and Novartis shall have one vote on the JRC. The JRC shall make decisions unanimously where possible. In the event of a deadlock, Novartis shall have the deciding vote on all matters except Critical Issues.

2.5.2. Dispute Resolution. In the event that the JRC is

deadlocked as to any material increase in financial or other resources required to be expended by Hybridon in connection with the Research Program (a "Critical Issue"), then the Parties shall attempt to have the issue resolved in accordance with the dispute resolution mechanism set forth in Section 11.3 hereof.

2.6. EXCHANGE OF INFORMATION.

2.6.1. Reports to JRC. Hybridon and Novartis will share information (including, without limitation, Confidential Information) regarding the Collaboration and/or activities conducted under the Research Plan with the members of the JRC no less frequently than quarterly in order to allow such members to monitor the progress of the Collaboration.

2.6.2. Restrictions on Use of Know-How. Know-How disclosed by one Party to the other Party shall be deemed Confidential Information of the Providing Party subject to the provisions of Article V.

2.6.3. Delivery of Know-How. During, and upon conclusion of, the Research Program, and subject to the provisions of this Section 2.6 and Article V hereof, Hybridon shall (a) disclose to Novartis all technical information known to it which constitutes Hybridon Know-How (to the extent licensed under this Agreement) and Joint Know-How and (b) transfer to Novartis all data and materials specified in the related Research Plan. Hybridon shall provide all data both in hard copy form and, if commercially and technically reasonable, in an electronic form compatible with Novartis' systems; provided that Novartis shall only reimburse Hybridon's costs of providing data in a form compatible with its systems so long as Hybridon has provided Novartis with a reasonably detailed description of such costs and obtained Novartis' prior written approval to incur such costs. Novartis shall reimburse such pre-approved costs actually incurred by Hybridon within [**] after receipt by Novartis of Hybridon's Invoice for the same.

2.6.4. Background Intellectual Property; Non-Interference.

(a) Neither Party shall be entitled to information from the other Party concerning Hybridon Intellectual Property or Novartis Intellectual Property, as applicable, discovered or developed by that Party outside the Research Program; except that Hybridon must disclose to the JRC in a timely manner any and all Hybridon Background Intellectual Property that it uses and/or is relevant to the Research Program, and each Party must disclose to the JRC all Joint Intellectual Property it conceives, discovers or develops under the Research Program.

(b) Hybridon will not assert its rights in any Acquisition Intellectual Property, Hybridon Intellectual Property, Hybridon Background Intellectual Property or Joint Intellectual Property, as applicable, and will use best efforts to prevent its licensees, if any, from asserting similar rights licensed by Hybridon to such licensees to block or impede Novartis or its Affiliates or their assignees, licensees or sublicensees from exercising the rights licensed to Novartis herein or in the License Agreement.

2.7. PRIMARY DATA ACCESS.

2.7.1. Recordkeeping. Hybridon and Novartis shall each maintain records in sufficient detail, and will document in a manner appropriate for purposes of supporting the filing of potential patent applications, all work done and results achieved in the performance of the Research Program and the Research Plan (including, without limitation, all data necessary in the form required under any applicable governmental regulations).

2.7.2. Technical Reports. Subject to Article V hereof: (a) Hybridon shall grant to Novartis access, at reasonable intervals and upon reasonable notice, to all data (including, without limitation, all primary data and data contained in laboratory notebooks) generated in the course of performing its obligations under the Research Program; (b) Novartis shall have the right, at reasonable intervals, to make copies of such data to use and

transfer as permitted hereunder; and (c) Novartis shall have the right to use and transfer such data in accordance with the licenses granted hereunder. Notwithstanding anything to the contrary in this Agreement or the License Agreement, except in connection with the exercise by Novartis of an Additional Indication Option under the License Agreement, Novartis shall not disclose to Hybridon or to the JRC any data relating to indications, uses of IMOs or improvements to IMOs outside the Commercial Field of Use.

ARTICLE III

PAYMENTS

3.1. STAFFING AND RESEARCH SUPPORT PAYMENTS.

3.1.1. Reimbursement of Research Costs. Except for Research Costs payable by Hybridon pursuant to the first sentence of Sections 2.3.1(a), 2.3.2(b), and 2.3.3(b), Novartis shall be responsible for all Research Costs and costs incurred in connection with Section 2.6.3 and shall reimburse Hybridon for actual Research Costs incurred by Hybridon within [**] after receipt by Novartis of Hybridon's Invoice for the same.

3.1.2. FTE Allocation. The JRC shall determine the appropriate number of FTEs to be assigned to perform activities under the Research Plan and the manner in which such FTEs shall be allocated in order to best achieve the goals set forth in the Research Plan. The

Parties agree that such number of FTEs shall not exceed [**] per year. Novartis shall fund such FTE support as the JRC determines for the period of time beginning on the date on which the JRC approves the Research Plan and ending on the date on which the activities under the Research Plan are completed (or upon the expiration or termination of this Agreement, if earlier). Novartis will remit to Hybridon an amount equal to the FTE Rate times the number of FTEs actually carrying out the activities assigned to Hybridon, prorated for the time period that the work was actually being performed under the Research Plan as set forth in Section 1.23.

3.1.3. FTE Payments. Novartis shall make all payments for FTE support under the Research Plan to Hybridon quarterly in arrears within [**] after receipt by Novartis of Hybridon's Invoice for the same. All payments shall be made without deduction for withholding or other similar taxes, in U.S. dollars to the credit of such bank account as may be designated by Hybridon in writing to Novartis. Any payments which fall due on a date which is a legal holiday in Bermuda, Switzerland or the United States may be made on the next following day which is not a legal holiday in the Bermuda, Switzerland or the United States.

3.1.4. Records.

(a) Hybridon shall keep accurate records and books of accounts containing all data reasonably required for the calculation and verification of Research Costs and FTEs employed by, or equivalents supplied by, Hybridon for activities performed in accordance with the Research Plan. At Novartis' request, Hybridon shall make those records available during reasonable working hours for review by a recognized independent accounting firm acceptable to both Parties for the sole purpose of verifying the accuracy of those records in the calculation of Research Costs and FTEs. Novartis shall use commercially reasonable efforts to cause the accounting firm to retain all such information in confidence. Subject to Section 3.1.4(b) hereof, such reviews shall be at Novartis' expense and shall be conducted no more frequently than once per year. Notwithstanding the foregoing, in the event Hybridon is required or elects to restate its accounts, Novartis shall be entitled to conduct an additional review pursuant to this Section 3.1.4.

(b) If the audit shows any underpayment or overcharging by any Party, that underpayment or overcharging shall be reported to

the JRC and the underpaying or overcharging Party shall remit such underpayment or reimburse such overcompensation (together with interest at the rate of one percent (1%) per annum) to the underpaid or overcharged Party within thirty (30) calendar days of receiving the audit report. Further, if the audit for an annual period shows an underpayment or an overcharge by any Party for such period in excess of five percent (5%) of the amounts properly determined, the underpaying or overcharging Party, as the case may be, shall reimburse the applicable underpaid or overcharged Party, for its respective audit fees and reasonable out-of-pocket expenses in connection with said audit, which reimbursement shall be made within [**] of receiving appropriate invoices and other support for such audit-related costs.

3.2. UPFRONT PAYMENT. A one-time, non-creditable, non-refundable upfront payment of Four Million U.S. Dollars (U.S. $4,000,000) for access by Novartis to the Hybridon Intellectual Property related to the IMOs for the Research Term and Hybridon's participation in the Research Program shall become payable upon execution hereof. An Invoice for such payment is attached hereto as Schedule 3.2 and shall be deemed delivered pursuant to Section 11.13 hereof upon the Effective Date and Novartis shall make such upfront payment within [**] days after the Effective Date.

3.3. RESEARCH PROGRAM PAYMENTS. In addition to the payments pursuant to Sections 3.1 and 3.2 above, Novartis shall make the following payments to Hybridon in connection with the Research Program. Each payment shall be made within [**] days of Novartis' receipt of the related Hybridon Invoice.

3.3.1. Renewal Period Payment. In the event that Novartis extends the Initial Research Term pursuant to Section 2.1.2 hereof, Novartis shall make a one-time, non-creditable, non-refundable payment of [**] U.S. Dollars (U.S. $[**]) to Hybridon. Hybridon shall submit its Invoice for the same to Novartis once Hybridon has received the Novartis Renewal Notice. No payment obligation shall accrue in respect of an extension of the Renewal Period pursuant to Section 2.1.3 hereof.

3.3.2. IMO Lead Payments. Within [**] of a FPFV with respect to an IMO Lead, Novartis shall notify Hybridon in writing as to the occurrence of such FPFV (a "FPFV Notice"). Hybridon shall submit its Invoice for the same to Novartis once Hybridon has received the FPFV Notice. Upon receipt of such Invoice, Novartis shall make a one-time, non-creditable (except as otherwise set forth below in this Section 3.3.2), non-refundable payment of [**] U.S. Dollars (U.S. $[**]) to Hybridon. Such FPFV Notice and payment shall be required only in connection with the first [**] IMO Leads and such payment shall not be payable in connection with a Substitute IMO Lead if such payment was previously made for the initial IMO Lead replaced by the Substitute IMO Lead. In the event any IMO Lead is replaced with a Substitute IMO Lead, the Substitute IMO Lead shall not be considered a separate IMO Lead for the purposes of this Agreement, and all milestone payments previously paid with respect to such initial IMO Lead shall be fully creditable as payment for the related Substitute IMO Lead.

ARTICLE IV

LICENSE, DEVELOPMENT AND COMMERCIALIZATION RIGHTS

4.1. RESEARCH LICENSE.

4.1.1. Hybridon Intellectual Property. Subject to the terms of this Agreement and during the Term, Hybridon hereby grants to Novartis and its Affiliates an exclusive (subject to Hybridon's retention of rights sufficient to perform its obligations hereunder and to the rights Hybridon has granted to EpiGenesis pursuant to the EpiGenesis Agreement), non-transferable (except in accordance with Section 11.9), and sublicensable license in the Territory under the Hybridon Intellectual Property and Hybridon's interest in the Joint Intellectual Property to research and develop IMO Candidates in the Research Field of Use.

4.1.2. Hybridon Background Intellectual Property. Subject to the terms of this Agreement and during the Term, Hybridon hereby grants to Novartis and its Affiliates a non-exclusive, non-transferable (except in accordance with Section 11.9), and sublicensable license in the Territory under the Hybridon

Background Intellectual Property to research and develop IMO Candidates in the Research Field of Use (together with the license granted in Section 4.1.1 above, the "Novartis Research License").

4.1.3. Limitations. Notwithstanding the foregoing, nothing herein shall give Novartis or its Affiliates the right to, and Novartis shall not (and shall not permit its Affiliates to) during the term of this Agreement: (i) Chemically Modify any IMO Candidate or use the Hybridon Intellectual Property to create any immunomodulatory oligonucleotide that is the same or substantially structurally equivalent to any IMO Candidate or that is covered by any Valid Claim in the Hybridon Patents; (ii) conduct any clinical trial designed to support an indication outside the Commercial Field of Use without Hybridon's consent; or (iii) prior to Novartis' exercise of the Commercialization Option, initiate any clinical trial with respect to an IMO Candidate beyond the clinical trial(s) required to establish Proof of Concept (i.e., initiate any phase II(b) clinical trial, any phase III clinical trial or any pivotal clinical trial, as those terms are commonly understood in the pharmaceutical industry).

4.1.4. Sublicensing. Any sublicense granted by Novartis pursuant to this Agreement must be granted pursuant to a written agreement that subjects the sublicensee to not less than the relevant restrictions, limitations and obligations in this Agreement. Novartis shall remain primarily responsible for all of its obligations under this Agreement and shall take prompt action to enforce its rights against its sublicensees should any such sublicensee breach its obligation to comply with the restrictions, limitations or obligations set forth in this Agreement. Novartis shall designate Hybridon as a third party beneficiary if Hybridon is damaged as a result of any breach by a sublicensee of any relevant restriction, limitation, or obligation pertaining to this Agreement.

4.2. COMMERCIALIZATION OPTION.

4.2.1. Commercialization Option. Novartis has the exclusive right (the "Commercialization Option") during the Option Term to license exclusively any and all IMO Candidates, including, without limitation, IMO Leads, for commercialization of Products in the Commercial Field of Use, under the terms and conditions set forth in the License Agreement.

4.2.2. Exercise of Option. Novartis may exercise its Commercialization Option by delivering to Hybridon written notice of exercise (a "Commercialization Exercise Notice"). The license grants contemplated by the License Agreement shall become effective upon the Effective Date of the License Agreement (as set forth in Section 2.1 thereof). Novartis may exercise the Commercialization Option during the Option Term. If Novartis does not

exercise the Commercialization Option during the Option Term, the Commercialization Option shall expire and have no further force or effect. Exercise of the Commercialization Option with respect to one IMO Lead licensed hereunder shall constitute exercise of the Commercialization Option with respect to any and all IMO Candidates and IMO Leads licensed hereunder.

4.3. EXCLUSIVITY. During the period beginning on the Effective Date and throughout the Option Term, and during the entire term of the License Agreement if Novartis exercises the Commercialization Option: (i) Hybridon shall neither grant to any Third Party rights to any immunomodulatory oligonucleotide other than Excluded Antisense IP in the Commercial Field of Use, nor shall Hybridon develop or commercialize, directly or indirectly, any immunomodulatory oligonucleotide other than Excluded Antisense IP in the Commercial Field of Use; and (ii) Hybridon shall neither grant to any Third Party rights to any Test Sample, IMO Candidate or IMO Lead for any indication, nor shall Hybridon develop or commercialize, directly or indirectly, any such IMO Candidate or IMO Lead for any indication. Notwithstanding the foregoing, in the event that Hybridon provides Novartis with more than [**] Test Samples, the provisions of this Section 4.3 shall cease to apply upon expiration of the Research Term with respect to those Test Samples Novartis has determined not to include in the CSP Phase Research.

ARTICLE V

CONFIDENTIALITY

5.1. UNDERTAKING. Each Party shall keep confidential, and, other than as provided herein, shall not use or disclose, directly or indirectly, any trade secrets, confidential or proprietary information, or any other knowledge, information, documents or materials, owned, developed or possessed by the other Party (the "Providing Party"), whether in tangible or intangible form, the confidentiality of which such other Party takes reasonable measures to protect (collectively, "Confidential Information"). The Parties hereby agree that, for the purposes of this Agreement, discussion between the Parties regarding potential IMO Candidates and IMO Leads will be deemed to be the confidential information of Novartis.

(a) A Party receiving Confidential Information (the "Receiving Party") shall use commercially reasonable efforts not less than those efforts such

Receiving Party uses to protect its own proprietary information to prevent the unauthorized use and disclosure of such information of the Providing Party, and to prevent unauthorized persons or entities from obtaining or using such information.

(b) The Receiving Party further agrees to refrain from directly or indirectly taking any action which would constitute or facilitate the unauthorized use or disclosure of Confidential Information. The Receiving Party may disclose Confidential Information to its Affiliates, officers, employees and agents, to authorized licensees and sublicensees, and to subcontractors in connection with the identification, generation, development and manufacture of IMOs, as applicable, to the extent necessary to enable such parties to perform their obligations hereunder or under the applicable license, sublicense or subcontract, as the case may be; provided, however, that such Affiliates, officers, employees, agents, licensees, sublicensees and subcontractors have entered into confidentiality agreements for secrecy and non-use of such Confidential Information offering no less than the protection afforded hereby which by their terms shall be enforceable by injunctive relief at the instance of the Providing Party.

(c) The Receiving Party shall be liable for any unauthorized use and disclosure of such information by its Affiliates, officers, employees and agents and any such sublicensees and subcontractors.

5.2. EXCEPTIONS.

5.2.1. Non-Confidential Information. Notwithstanding the foregoing, the provisions of Section 5.1 hereof shall not apply to Confidential Information that the Receiving Party can establish by clear and convincing evidence:

(a) have entered the public domain without such Receiving Party's breach of any obligation owed to the Providing Party;

(b) are or have become known to the Receiving Party from a source other than the Providing Party, other than by breach of an obligation of confidentiality

owed to the Providing Party; or

(c) are independently developed by the Receiving Party without reference to or reliance upon knowledge, information, documents or materials of the Providing Party and without breach of this Agreement.

5.2.2. Other Exceptions. In addition, a Receiving Party may,

notwithstanding the obligations of Section 5.1, disclose Confidential Information:

(a) that the Receiving Party can establish by clear and convincing evidence is permitted to be disclosed by the prior written consent of the Providing Party;

(b) that the Receiving Party can establish by clear and convincing evidence is required to be disclosed by the Receiving Party to defend litigation or to comply with applicable laws or regulations (including without limitation disclosure obligations under applicable securities laws or the regulations of any stock exchange or NASDAQ), or in connection with filings with the FDA, the United States Patent and Trademark Office or other similar governmental agencies, provided that the Receiving Party provides prior written notice of such disclosure to the Providing Party and takes reasonable and lawful actions to avoid or minimize the degree of such disclosure; or

(c) concerning the existence and terms of this Agreement and the status of transactions described herein, under obligations of confidentiality, to the Receiving Party's existing and potential advisors, investors that are bona fide venture capital or institutional investors that make such investments for the potential financial return and not for strategic purposes (so long as such investor does not have more than $1 billion in world-wide pharmaceutical revenue in the most recently completed calendar year) and any Person considering to acquire Hybridon or a controlling interest in Hybridon (a "Potential Acquirer"). Notwithstanding the foregoing, Hybridon shall not make any such disclosure to any Potential Acquirer (i) until discussions

with such Potential Acquirer progress to a stage at which the Potential Acquirer is engaged in comprehensive due diligence of Hybridon's business and Hybridon has a good faith belief that the consummation of the proposed acquisition has become reasonably likely to occur and (ii) unless the Potential Acquirer has entered into a confidentiality agreement at least as strict as the provisions of this Section 5.2.2(c), designating Novartis as a third party beneficiary and prohibiting the Potential Acquirer from disclosing or using for its own purposes (other than evaluation of the proposed transaction with Hybridon) any such information. Hybridon shall notify Novartis in writing prior to any disclosure pursuant to this Section 5.2.2(c), but shall not be required to disclose the identity of any Potential Acquirer until after consummation or abandonment of the transaction, at which time Hybridon shall provide Novartis with a copy of the confidentiality agreement executed by such Potential Acquirer.

5.3. PUBLICITY. The Parties will agree upon the timing and content of any initial press release or other public communications relating to this Agreement and the transactions contemplated herein.

(a) Except as set forth in Section 5.3(b) or to the extent already disclosed in that initial press release or other public communication, no public announcement concerning the existence or the terms of this Agreement or the transactions described herein shall be made, either directly or indirectly, by Hybridon or Novartis, except as may be legally required by applicable laws, regulations, or judicial order, without first obtaining the approval of the other Party and agreement upon the nature, text, and timing of such announcement.

(b) Subject to this Article V, a Party may issue press releases or make public communications or otherwise make disclosures that such Party determines to be necessary to comply with applicable law (including disclosure requirements of the U.S. Securities and Exchange Commission, NASDAQ or any stock exchange on which securities issued by such Party are traded);

provided that such Party shall provide the other Party with a copy of the proposed text of such press releases, public communications or disclosure in advance of the scheduled release or publication thereof to afford such other Party a reasonable opportunity to review and comment upon the proposed text.

(c) The Party desiring to make any such public announcement shall provide the other Party with a written copy of the proposed announcement in sufficient time (no less than [**] or such shorter period as may be required to enable a Party to comply with applicable law) prior to public release to allow such other Party to comment upon such announcement, prior to public release.

5.4. SURVIVAL. The provisions of this Article V shall survive for [**] years after the expiration or termination of this Agreement.

ARTICLE VI

PUBLICATION

6.1. PUBLICATION. Hybridon and its Affiliates agree not to publish or publicly present any results, data, or scientific findings with respect to the Research Program (except in connection with filings with the FDA, the United States Patent and Trademark Office or other similar governmental entities in other countries or regions) without the prior written consent of Novartis. Publication shall be presumed to be impermissible until Novartis shall have determined, in its sole judgment, that the intellectual property rights in such information first shall have been adequately protected, whether by foreign filing of Patents or otherwise. In publications, each Party hereto shall acknowledge appropriately the contribution of the other Party.

6.2. SURVIVAL. The provisions of this Article VI shall survive until the earlier of (i) expiration of the Option Term or (ii) the Effective Date (as defined in the License Agreement) of the License Agreement, at which time the terms of the License Agreement shall govern.

ARTICLE VII

INDEMNIFICATION

7.1. INDEMNIFICATION BY HYBRIDON. Hybridon will indemnify, defend, and hold Novartis and its Affiliates, their respective employees, shareholders, officers, directors, and agents and consultants, and the successors, heirs and assigns of each of them, harmless against any loss, damages, action, suit, claim, demand, liability, expense, bodily injury, death or property damage including reasonable attorney fees (a "Loss") that may arise from Third Party claims brought, instituted or arising against such persons to the extent such Loss is based on or arises out of the breach by Hybridon of any of its covenants, representations or warranties set forth in this Agreement, but excluding any such Loss that is caused by the negligent, willful or reckless acts or omissions of Novartis.

7.2. INDEMNIFICATION BY NOVARTIS. Novartis will indemnify, defend, and hold Hybridon, and its Affiliates, and their respective employees, shareholders, officers, directors, agents and consultants and the successors, heirs, and assigns of each of them, harmless against any Loss that may arise from Third Party claims brought, instituted or arising against such persons to the extent such Loss is based on or arises out of (a) the breach by Novartis of any of its covenants, representations or warranties set forth in this Agreement, but excluding any such Loss that is caused by the negligent or reckless acts or omissions of Hybridon or (b) the development, manufacture, use, storage or handling of an IMO Candidate or IMO Lead by Novartis or its Affiliates or their representatives, agents, licensees, sublicensees or subcontractors under this Agreement, or any actual or alleged violation of law resulting therefrom, including without limitation any death or bodily injury caused or allegedly caused by the use of the IMO Candidate or IMO Lead, but excluding any such Loss

that is caused by the negligent, willful or reckless acts or omissions of Hybridon.

7.3. CLAIMS PROCEDURES. Each Person entitled to be indemnified by the other Party (an "Indemnified Person") pursuant to Sections 7.1 or 7.2 hereof shall give notice to the other Party (an "Indemnifying Party") promptly after such Indemnified Person has actual knowledge of any threatened or asserted claim as to which indemnity may be sought, and shall permit the Indemnifying Party to assume the sole control of the defense of any such claim or any litigation resulting therefrom; provided, however:

(a) that counsel for the Indemnifying Party, who shall conduct the defense of such claim or any litigation resulting therefrom, shall be approved by the Indemnified Person (whose approval shall not unreasonably be withheld) and the Indemnified Person may participate in such defense at such Party's expense (unless: (i) the employment of counsel by such Indemnified Person has been authorized by the Indemnifying Party; or (ii) the Indemnified Person shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Person in the defense of such action, in each of which cases the Indemnifying Party shall pay the reasonable fees and expenses of one law firm serving as counsel for all Indemnified Persons with respect to such action, which law firm shall be subject to approval, not to be unreasonably withheld, by the Indemnifying Party);

(b) the failure of any Indemnified Person to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this Agreement to the extent that the failure to give notice did not result in harm to the Indemnifying Party or materially compromise the defense of such claim;

(c) no Indemnifying Party, in the defense of any such claim or litigation, shall consent to entry of any judgment or enter into any settlement, except with the approval of each Indemnified Person (which approval shall not be unreasonably withheld), except a settlement which imposes only a monetary obligation on the Indemnifying Party and which includes as an unconditional term thereof the giving of a release from all liability in respect to such claim or litigation by the claimant or plaintiff to the Indemnified Person;

(d) each Indemnified Person shall furnish such information or reasonable assistance regarding itself or the claim in question as an Indemnifying Party may reasonably request in writing and shall be reasonably required in connection with the defense of such claim and litigation resulting therefrom; and

(e) no Indemnified Person shall settle or agree to a judgment with respect to such claim or litigation without the consent of the Indemnifying Party (which consent shall not be unreasonably withheld).

7.4. COMPLIANCE. The Parties shall comply fully with all applicable laws and regulations in connection with their respective activities under this Agreement, including but not limited to applicable rules concerning good manufacturing practices according to the current EC / Pharmaceutical Inspection Convention GMP guidelines, the U.S. Code of Federal Regulations, the laws and regulations of the European Union and the corresponding applicable national laws and regulations.

7.5. SURVIVAL. The provisions of this Article VII shall survive expiration or termination of this Agreement without limitation.

ARTICLE VIII

INTELLECTUAL PROPERTY RIGHTS

8.1. OWNERSHIP.

8.1.1. Subject to any licenses explicitly granted under this Agreement, each Party shall retain its intellectual property rights in all Know-How and Patents Controlled by it on the Effective Date or developed or acquired solely by it thereafter. For avoidance of any doubts, Novartis shall retain ownership of all Novartis Intellectual Property, and Hybridon shall retain ownership of all Hybridon Intellectual Property and Hybridon Background Intellectual Property.

8.1.2. During the Term of the Agreement, each of Hybridon and Novartis will keep the other Party fully informed with respect to any new intellectual property invented or generated by it or its Affiliates under this Agreement.

(a) All intellectual property (including, without limitation, data, discoveries, technical information, Know-how, Patents, proprietary information, trade secrets and inventions) invented or generated under this Agreement solely by one or more persons obliged to assign their rights to Novartis or its Affiliates during the Term shall be owned by Novartis and shall be deemed

Novartis Patent Rights or Novartis Know-How as applicable;

(b) All intellectual property (including, without limitation, data, discoveries, technical information, Know-how, Patents, proprietary information, trade secrets and inventions) invented or generated under this Agreement solely by one or more persons obliged to assign their rights to Hybridon or its Affiliates during the Term shall be owned by Hybridon and shall be deemed Hybridon Patents or Hybridon Know-How, as applicable;

(c) All intellectual property (including, without limitation, data, discoveries, technical information, Know-how, Patents, proprietary information, trade secrets and inventions) invented or generated jointly under this Agreement by (i) one or more persons obliged to assign their rights to Novartis or its Affiliates and (ii) one or more persons obliged to assign their rights to Hybridon or its Affiliates during the Term shall be owned jointly by Novartis and Hybridon and shall be Joint Intellectual Property and, subject to Section 4.1.1, each Party shall have the right to use and exploit such Joint Intellectual Property without any duty to account to the other Party with respect to such use and exploitation. Each Party will take all reasonable actions requested by the other Party, including execution of appropriate patent filings and applications for registration, to perfect the requesting Party's ownership interest to the Joint Intellectual Property; and

(d) Questions of inventorship under this Section 8.1.2 shall be resolved in accordance with United States patent laws.

8.2. PREPARATION AND COSTS. Hybridon shall take responsibility and pay for the preparation, filing, prosecution and maintenance of all Hybridon Patents and Patents that are part of the Hybridon Background Intellectual Property, and Novartis shall take responsibility and pay for the preparation, filing, prosecution and maintenance of all Novartis Patents and Joint Patents; provided that, with respect to (a) Hybridon Patents and Patents that are part of the Hybridon Background Intellectual Property that disclose or claim inventions applicable solely to the IMO Candidates and IMO Leads and (b) Joint Patents that disclose or claim inventions with

applicability beyond the IMO Candidates and IMO Leads, the Party having responsibility for the preparation, filing, prosecution and maintenance of such

Hybridon Patents, Patents that are part of the Hybridon Background Intellectual Property and Joint Patents shall promptly provide the other Party with copies of all substantive communications from any patent office and with drafts of all substantive filings to be made, reasonably in advance of their filing, with any patent office with respect thereto; shall consider in good faith any comments thereon provided by the other Party; and shall not unreasonably decline to incorporate changes to such filing proposed by such other Party. Each Party shall assist the other in the preparation and prosecution of such Patents and shall execute all documents reasonably deemed necessary for the filing thereof and/or for the vesting of title thereto as provided in this Agreement. Each Party shall provide the JRC (or the other Party if the JRC no longer exists) with periodic reports listing, by name, Hybridon Patents, Patents that are part of the Hybridon Background Intellectual Property, Novartis Patents and Joint Patents arising under the Research Program filed in the United States and other jurisdictions, along with a general summary of the claims made and the jurisdictions of filing. In good time, before the deadline for foreign filing of any patent application filed in the United States, Hybridon will notify Novartis whether it intends to foreign file such patent application, and if it intends to do so, in what countries it proposes to foreign file.

8.3. DISCONTINUATION. The Party initially responsible under Section 8.2 for the preparation, filing, prosecution and maintenance of a particular Patent for an invention arising under the Research Program shall give at least [**] advance notice to the other Party of any decision to cease preparation, filing, prosecution or maintenance of that Patent. Discontinuation may be elected on a country-by-country basis or for a Patent application or Patent series in total. In such case, the other Party may elect, at its sole discretion, to continue preparation, filing, and prosecution or maintenance of the discontinued Patent at its sole expense.

8.4. SURVIVAL. The provisions of this Article VIII shall survive expiration or termination of this Agreement without limitation; provided that the provisions of Section 8.3 as they relate to Patents that are solely owned by either Party shall not survive expiration or termination of this Agreement.

ARTICLE IX

TERM AND TERMINATION

9.1. TERM. The term of this Agreement (the "Term") shall begin on the Effective Date and expire upon expiration of the Option Term unless earlier terminated by either Party hereto in accordance with this Agreement.

9.2. TERMINATION.

9.2.1. Upon ninety (90) days' written notice to Hybridon, Novartis may, at its sole discretion, unilaterally terminate the Research Program and this Agreement without cause.

9.2.2. In the event that Hybridon shall breach any of its material obligations under this Agreement or Novartis shall breach its obligations under Section 3.2 hereof, and such breach shall not have been remedied or steps initiated to remedy the same to the non-breaching Party's reasonable satisfaction, within thirty (30) days after such non-breaching Party sends written notice of such breach to the breaching Party, the non-breaching Party may, at its sole discretion, unilaterally terminate the Research Program and this Agreement without prejudice to its rights to seek damages in connection with such breach.

9.2.3. If at any time during the term of this Agreement, an Event of Bankruptcy (as defined below) relating to a Party (the "Bankrupt Party") occurs, the other Party shall have, in addition to all other legal and equitable rights and remedies available hereunder, the option to terminate this Agreement upon thirty (30) calendar days' written notice to the Bankrupt Party. As used above, the term "Event of Bankruptcy" shall mean, with respect to a Party, (a) the dissolution, termination of existence or liquidation of the Party; (b) the institution of a bankruptcy action against the Party by a Third Party or the appointment of a custodian or receiver with respect to all or substantially all of the business or assets of the Party, which action, custodian or receiver is not terminated or dismissed within ninety (90) calendar days following institution or appointment; (c) the institution by the Party of any petition for relief or similar proceeding or the making by the Party with respect to all or

substantially all of the business or assets of the Party of a composition or any assignment or trust mortgage for the benefit of

creditors under any bankruptcy, reorganization, receivership or other similar law affecting the rights of creditors generally; or (d) the insolvency of the Party.

9.3. EFFECT OF TERMINATION.

9.3.1. In the event of any termination under Section 9.2.1 hereof, Novartis' obligation to perform any further work under the Research Program shall cease as of the date of the termination notice, and Novartis shall reimburse Hybridon for all Research Costs actually incurred by Hybridon prior to the date of termination, regardless of whether such Research Costs become payable subsequent to such date and shall pay Hybridon all amounts payable in accordance with Section 3.1.3 for all periods prior to the date of termination, provided that: (i) following the date of the termination notice, Hybridon shall not initiate any additional internal activities or contract with any Third Party for the provision of services or goods that will result in Hybridon incurring Research Costs and shall use commercially reasonable efforts to minimize all Research Costs previously incurred (including, without limitation, returning materials to vendors where possible, winding down ongoing projects, reassigning personnel to projects outside the Research Program, not initiating new activities and refraining from hiring additional personnel to perform work on the Research Program) and (ii) Hybridon shall provide Novartis with appropriate documentation of such costs.

9.3.2. Upon any termination of this Agreement by Novartis pursuant to Section 9.2.1 or Hybridon pursuant to Sections 9.2.2 or 9.2.3: (i) except with respect to any provision hereof that by its terms survives termination and any payment obligation of Novartis that has accrued prior to the date of termination, all rights and obligations of the Parties under this Agreement shall terminate, (ii) all rights granted by Hybridon to Novartis pursuant to the Novartis Research License shall revert to Hybridon, (iii) each Party shall return to the other all Confidential Information of such other Party, provided, however, that the Parties may each retain a copy of such other Party's Confidential Information in segregated files solely for archival purposes, and (iv) if the Commercialization Option has not already been exercised, the Option Term shall terminate and the Commercialization Option shall have no further force or effect.

9.3.3. Upon any termination of this Agreement by Novartis pursuant to Section 9.2.2 or Section 9.2.3, all rights granted to Novartis hereunder shall survive (including,

without limitation, all rights granted by Hybridon to Novartis pursuant to the Novartis Research License) and the License Agreement shall become effective immediately, subject to payment by Novartis of the option exercise fee as set forth in Section 5.1 of the License Agreement. In the event that Novartis fails to make such payment, the License Agreement shall terminate and shall be of no further force or effect, effective as of the day immediately following the day on which such payment is ultimately due. Upon such termination, Novartis' payment obligations pursuant to Sections 3.1 (with respect to Research Costs and FTE costs incurred after the date of termination hereof) and 3.3.1 hereof shall terminate, Novartis' payment obligations (whether arising before or after such termination of this Agreement) under Section 3.3.2 shall survive for so long as the License Agreement remains in effect, and all rights granted to Hybridon hereunder shall terminate. Notwithstanding the foregoing, each Party's rights and obligations pursuant to Article V with respect to confidentiality, Article VII with respect to indemnification, and Article VIII with respect to intellectual property rights shall survive any such termination in accordance with their terms.

ARTICLE X

REPRESENTATIONS AND WARRANTIES

10.1. REPRESENTATIONS AND WARRANTIES OF HYBRIDON. Hybridon represents and warrants to Novartis as follows:

10.1.1. Authorization. This Agreement has been duly executed and delivered by Hybridon and constitutes the valid and binding obligation of Hybridon, enforceable against Hybridon in accordance with its terms except as enforceability may be limited by fraudulent conveyance, insolvency, bankruptcy, reorganization, moratorium and other laws relating to or affecting creditors' rights generally and by general equitable principles. The execution, delivery and performance of this Agreement have been duly authorized by all necessary action on the part of Hybridon, its officers and directors. No provision of this Agreement violates any other agreement that Hybridon may have with any other person or company, and Hybridon acknowledges that Novartis has relied on that representation in entering into this Agreement.

10.1.2. Hybridon Controlled Rights. As of the Effective Date, Hybridon owns or possesses adequate licenses or other rights to use all Hybridon Intellectual Property and Hybridon Background Intellectual Property and to grant the licenses and perform the obligations contemplated herein. The granting of the Commercialization Option to Novartis hereunder does not violate any right known to Hybridon of any Third Party.

10.1.3. Third Party Patents. Except as disclosed in writing between the Parties to this Agreement or their respective agents, as of the Effective Date, to the best of Hybridon's knowledge, after reasonable inquiry, there are no issued patents or pending patent applications that, if issued, would be infringed by the exercise by Novartis of the rights granted herein or the development, manufacture, use or sale of the IMO Leads pursuant to this Agreement.

10.2. REPRESENTATIONS AND WARRANTIES OF NOVARTIS. Novartis represents and warrants to Hybridon that this Agreement has been duly executed and delivered by Novartis and constitutes the valid and binding obligation of Novartis, enforceable against Novartis in accordance with its terms except as enforceability may be limited by fraudulent conveyance, insolvency, bankruptcy, reorganization, moratorium and other laws relating to or affecting creditors' rights generally and by general equitable principles. The execution, delivery and performance of this Agreement have been duly authorized by all necessary action on the part of Novartis, its officers and directors. No provision of this Agreement violates any other agreement that Novartis may have with any other person or company, and Novartis acknowledges that Hybridon has relied on that representation in entering into this Agreement.

10.3. LIMITATIONS.

10.3.1. NO OTHER WARRANTIES. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, ALL IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED.

10.3.2. CONSEQUENTIAL AND PUNITIVE DAMAGES. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY WILL BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, MULTIPLE, SPECIAL OR PUNITIVE

DAMAGES OF ANY NATURE ARISING FROM SUCH PARTY'S ACTIVITIES UNDER THIS AGREEMENT; PROVIDED, HOWEVER, THAT THIS LIMITATION SHALL NOT LIMIT THE INDEMNIFICATION OBLIGATIONS OF THE PARTIES WITH RESPECT TO THIRD PARTY CLAIMS OR THE OBLIGATIONS OF EITHER PARTY WITH RESPECT TO A BREACH OF ARTICLE IV OR ARTICLE V.

ARTICLE XI

MISCELLANEOUS PROVISIONS

11.1. GOVERNING LAW AND JURISDICTION. This Agreement shall be governed and construed in accordance with the internal laws of the State of New York, United States, and the Parties hereby submit to the exclusive jurisdiction of the courts of New York.

11.2. ADVERSE EVENTS. During the term of this Agreement, the Parties shall keep each other promptly and fully informed and will promptly notify appropriate authorities in accordance with applicable law, after receipt of information with

respect to any serious adverse event (as defined by the ICH Harmonized Tripartite Guideline on Clinical Safety Data Management), directly or indirectly attributable to the use or application of any IMO, and other material safety information relating to any IMO. Each Party shall be entitled to disclose and use all such information to regulatory authorities as required under applicable law or regulation, to licensees, sublicensees and collaborators, under obligations of confidentiality, for purposes relating to the research, development and/or commercialization of products incorporating IMOs.

11.3. DISPUTE RESOLUTION PROCESS FOR CRITICAL ISSUES. In the event of any Critical Issue which the JRC is unable to resolve, the Parties shall refer the matter to the President of Hybridon and the Head of the Novartis Respiratory Disease Area of Novartis Institutes for BioMedical Research, who shall attempt in good faith and using their best efforts to resolve the Critical Issue within sixty (60) days of the date of initial referral of the matter from the JRC; provided that, if such officers are unable to resolve such Critical Issue, the provisions of Section 2.2.2 shall continue to apply.

11.4. WAIVER. No provision of this Agreement may be waived except in writing by both Parties hereto. No failure or delay by either Party hereto in exercising any right or remedy hereunder or under applicable law will operate as a waiver thereof, or a waiver of any right or remedy on any subsequent occasion.

11.5. FORCE MAJEURE. Neither Party will be in breach hereof by reason of its delay in the performance of or failure to perform any of its obligations hereunder, if that delay or failure is caused by strikes, acts of God or the public enemy, riots, incendiaries, interference by civil or military authorities, compliance with governmental priorities for materials, or any cause beyond its control without its fault or negligence.

11.6. SEVERABILITY. Should one or more provisions of this Agreement be or become invalid, then the Parties hereto shall attempt in good faith to agree upon valid provisions in substitution for the invalid provisions, which in their economic effect and other substance come so close to the invalid provisions that it can be reasonably assumed that the Parties would have accepted this Agreement with those new provisions. If the Parties are unable to agree on such valid provisions, the invalidity of such one or more provisions of this Agreement shall nevertheless not affect the validity of the Agreement as a whole, unless the invalid provisions are of such essential importance for this Agreement that it may be reasonably presumed that the Parties would not have entered into this Agreement without the invalid provisions.

11.7. GOVERNMENT ACTS. In the event that any act, regulation, directive, or law of a country or its government, including its departments, agencies or courts, should make impossible or prohibit, restrain, modify or limit any material act or obligation of Novartis or Hybridon under this Agreement, the Party, if any, not so affected, shall have the right, at its option, to suspend or terminate this Agreement as to such country, if good faith negotiations between the Parties to make such modifications therein as may be necessary to fairly address the impact thereof, are not successful after a reasonable period of time in producing mutually acceptable modifications to this Agreement.

11.8. GOVERNMENT APPROVALS. Each Party will use commercially reasonable efforts to obtain any government approval required to enable this Agreement to become effective, or to enable any payment hereunder to be made, or any other obligation hereunder to be observed or performed. Each Party will keep the other informed of progress in obtaining any such

government approval, and will cooperate with the other Party in any such efforts.

11.9. ASSIGNMENT. This Agreement may not be assigned or otherwise transferred by either Party without the prior written consent of the other Party; provided, however, that Novartis may assign this Agreement without the consent of Hybridon: (i) to any of its Affiliates, if Novartis guarantees to full performance of such Affiliate's obligations hereunder; or (ii) in connection with the transfer or sale of all or substantially all of its assets or business to which this Agreement pertains, or a controlling interest in its equity, or in the event of its merger or consolidation with another company. Any

purported assignment in contravention of this Section 11.9 shall, at the option of the non-assigning Party, be null and void and of no effect. No assignment shall release either Party from responsibility for the performance of any accrued obligation of such Party hereunder. This Agreement shall be binding upon and enforceable against the successor to or any permitted assignees of either of the Parties.

11.10. AFFILIATES. Each Party may perform its obligations hereunder personally or through one or more Affiliates, although each Party shall nonetheless be solely responsible for the performance of its Affiliates. Neither Party shall permit any of its Affiliates to commit any act (including any act or omission) which such Party is prohibited hereunder from committing directly.

11.11. COUNTERPARTS. This Agreement may be executed in counterparts, each of which shall be deemed to be original and all of which shall constitute one and the same Agreement.

11.12. NO AGENCY. Nothing herein contained shall be deemed to create an agency, joint venture, amalgamation, partnership or similar relationship between Novartis and Hybridon and/or their respective Affiliates. Notwithstanding any of the other provisions of this Agreement, neither Party to this Agreement shall at any time enter into, incur, or hold itself out to Third Parties as having authority to enter into or incur, on behalf of the other Party, any commitment, expense, or liability whatsoever, and all contracts, expenses and liabilities in connection with or relating to the obligations of each Party under this Agreement shall be made, paid, and undertaken exclusively by such Party on its own behalf and not as an agent or representative of the other.

11.13. NOTICE. All communications between the Parties with respect to any of the

provisions of this Agreement will be sent to the addresses set out below, or to such other addresses as may be designated by one Party to the other by notice pursuant hereto, by (i) personal delivery (which shall be deemed received when delivered), (ii) reputable international express courier (which shall be deemed received when delivered), (iii) prepaid, certified mail (which shall be deemed received by the other party on the seventh (7th) business day following deposit in the mails), or (iv) facsimile transmission, or other electronic means of communication (which shall be deemed received when transmitted), with confirmation in the case of clause (iv) prepaid certified mail, given by the close of business on or before the next following business day:

if to Novartis, at:

Novartis International Pharmaceutical Ltd.
Hurst Holme
12 Trott Road
Hamilton, HM 11
Bermuda
Attention: Emil Bock
Fax: [**]

with a copy to:

Novartis Institutes for BioMedical Research, Inc.
400 Technology Square
Cambridge, Massachusetts 02139
USA
Attention: Robert L. Thompson, Vice President and
General Counsel
Fax: [**]

and:

Novartis Horsham Research Centre
Wimblehurst Road
Horsham, West Sussex
RH12 5AB
United Kingdom
Attention: Head of Novartis Respiratory Disease Area
Fax: [**]

if to Hybridon, at:

Hybridon, Inc.
345 Vassar Street

Cambridge, Massachusetts 02139
USA
Attention: President
Fax: +(617) 679-5542

with a copy to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
USA
Attention: David E. Redlick, Esq.
Fax: +(617) 526-5000

11.14. HEADINGS. The paragraph headings are for convenience only and will not be deemed to affect in any way the language of the provisions to which they refer.

11.15. AUTHORITY. The undersigned represent that they are authorized to sign this Agreement on behalf of their respective Parties.

11.16. ENTIRE AGREEMENT. This Agreement and the License Agreement contain the entire understanding of the Parties relating to the matters referred to herein and therein, supersede all prior agreements between the Parties with respect to such matters (including without limitation the Confidential Term Sheet dated January 26, 2005, the Material Transfer Agreement dated July 1, 2003 between Hybridon and Novartis Pharmaceuticals UK Limited, as amended prior to the Effective Date, and the Mutual Confidentiality Agreements dated January 23, 2003 and June 8, 2004 between Hybridon and Novartis Pharmaceuticals UK Limited, each as amended prior to the Effective Date, but excluding provisions of such Material Transfer Agreement and Mutual Confidentiality Agreements relating to restrictions on the use and disclosure of materials and information prior to the Effective Date (it being understood that any material and information transferred or disclosed between the Parties prior to the Effective Date relating to the matters referred to in this Agreement and the License Agreement will, after the Effective Date, be deemed to have been transferred or disclosed under, and will be subject to the restrictions on use and disclosure set forth in, this Agreement and the License Agreement)), and may only be amended by a written document, duly executed on behalf of the respective Parties.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the date first written above.

HYBRIDON, INC.

By: /s/ Sudhir Agrawal

Name: Sudhir Agrawal
Title: CEO/President

NOVARTIS INTERNATIONAL PHARMACEUTICAL LTD.

By: /s/ Emil Bock

Name: Emil Bock
Title: Member of the Board of Directors

By: /s/ Michael Jones

Name: Michael Jones
Title: Member of the Board of Directors

SCHEDULE 1.28
HYBRIDON PATENTS

HYBRIDON PATENTS

HYBN #	OTHER CASE #	APPLICATION NO.	TITLE	STATUS OF CASE	PATENT #	COUNTRY	FILING DATE	PUBLICATION #
[**]	[**]	[**]	[**]	[**]		[**]	[**]	[**]
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HYBRIDON'S LOGO

INVOICE

INVOICE DATE:
[MONTH][DAY] 200X

Street
Town, Country
Phone and Fax Nr.

INVOICE NO.:XXXX

BILL TO:
Novartis International Pharmaceutical Ltd.
"Hurst Holme", 12 Trott Road
Att. Mr. Emil Bock
P.O. Box HM 2899
Hamilton, HM LX
Bermuda

FOR:
Milestone for 200x
event Y

DESCRIPTION	AMOUNT (USD)
Milestone payment for event Y, according to paragraph XY of agreement ZZZZ dated	US$ 000'000.00

Novartis Contract Code

Please specify the event for which the invoice is due, and add any copies of invoices from third parties in case

reimbursement for third party work is agreed to

PLEASE REMIT BY WIRE TRANSFER WITHIN 60 DAYS TO:

Receiving Bank - .....
Swift Code - .....
ABA Number - .....
Credit Account - .....
Beneficiary - .....

TOTAL	000'000,00

If you have any questions concerning this invoice, contact ...
or e-mail to .....

VAT -Reg. No. Xxxxxxxxxx (if partner has one)

BEST REGARDS,

SCHEDULE 1.40
JOINT PATENTS

[To be appended upon exercise of the commercialization option.]

SCHEDULE 2.2.1
INITIAL RESEARCH PLAN

Acceptance Criteria for Hybridon IMO(TM)(TLR9 agonists)
Criteria to be met to qualify candidate for CSP initiation

AREA	PARAMETER	ACCEPTANCE CRITERIA (FOR CSP)	RESPONSIBILITY FOR DATA
IN VITRO PHARMACOLOGY	[**]	[**]	[**]
	[**]	[**]	[**]
	[**]	[**]	[**]
IN VIVO PHARMACOLOGY	[**]	[**]	[**]
IN VITRO AND IN VIVO SAFETY	[**]	[**]	[**]
	[**]	[**]	[**]
	[**]	[**]	[**]
STRUCTURE AND PHYSICOCHEMICAL PROPERTIES	[**]	[**]	[**]
	[**]	[**]	[**]
	[**]	[**]	[**]
	[**]	[**]	[**]

SCHEDULE 2.3.2
EXAMPLES OF POSSIBLE CSP PHASE RESEARCH STUDIES

[**]

HYBRIDON

SCHEDULE 3.2
UPFRONT PAYMENT INVOICE

INVOICE

345 Vassar Street
Cambridge, Massachusetts 02139
Tel. (617) 679-5517
Fax: (617) 679-5542

INVOICE DATE:
JUNE 1, 2005

INVOICE NO.: 1

BILL TO:

Novartis International Pharmaceutical Ltd.
"Hurst Holme", 12 Trott Road
Att.: Mr. Emil Bock
P.O. Box HM 2899
Hamilton, HM LX
Bermuda

FOR:
Research Collaboration Upfront payment

DESCRIPTION	AMOUNT (USD)
Upfront payment pursuant to Section 3.2 of the Research Collaboration and Option Agreement dated May 31, 2005.	$4,000,000.00
PLEASE REMIT BY WIRE TRANSFER WITHIN 60 DAYS TO: Citibank ABA 021000089 Bear Stearns A/C: 09253186 For further credit to: Hybridon For further credit to account # 220-03084	
TOTAL	$4,000,000.00

If you have any questions concerning this invoice, contact Bob Anderson at 617 -679-5517 or by e -mail at randersen@hybridon.com.

BEST REGARDS,
/s/ SUDHIR AGRAWAL
SUDHIR AGRAWAL

cc: Novartis Institutes for BioMedical Research (Attn.: Reto Wittwer)

EXECUTION COPY

Exhibit 10.2

Confidential Materials omitted and filed separately with the Securities and Exchange Commission. Asterisks denote omissions.

LICENSE, DEVELOPMENT AND COMMERCIALIZATION

AGREEMENT

by and between

HYBRIDON, INC.

and

NOVARTIS INTERNATIONAL PHARMACEUTICAL LTD.

EXECUTION COPY

LICENSE, DEVELOPMENT AND COMMERCIALIZATION AGREEMENT

This License, Development and Commercialization Agreement (this "License Agreement") is made this 31st day of May, 2005 by and between Hybridon, Inc. ("Hybridon"), a Delaware corporation with principal offices at 345 Vassar Street, Cambridge, Massachusetts 02139 USA, and Novartis International Pharmaceutical Ltd. ("Novartis"), a Bermuda corporation with principal offices at Hurst Holme, 12 Trott Road, Hamilton, HM LX, Bermuda. Hybridon and Novartis are sometimes referred to herein individually as a "Party" and together as the "Parties." This License Agreement shall take effect on the Effective Date pursuant to Section 2.1 hereof.

Capitalized terms used but not defined in this License Agreement shall have the meanings provided in the Research Collaboration and Option Agreement by and between Hybridon and Novartis of even date herewith (the "Collaboration Agreement").

INTRODUCTION

WHEREAS, pursuant to the Collaboration Agreement, the Parties are entering into a collaboration with the objective of identifying and generating IMO Leads; and

WHEREAS, Novartis may exercise its Commercialization Option (as defined herein) to license exclusively the Licensed IMOs (as defined herein) for worldwide development and commercialization of Products (as defined herein) in the Commercial Field of Use (as defined herein);

NOW THEREFORE, in consideration of the foregoing premises, the Parties agree as follows:

ARTICLE I

DEFINITIONS

1.1. "AAA" shall have the meaning set forth in Section 14.3.1 hereof.

1.2. "ACCOUNTING STANDARDS" with respect to Hybridon shall mean that Hybridon shall maintain records and books of accounts in accordance with United States Generally

Accepted Accounting Principles and with respect to Novartis shall mean that Novartis shall maintain records and books of accounts in accordance with IFRS (International Financial Reporting Standards).

1.3. "ACQUISITION INTELLECTUAL PROPERTY" shall mean (a) Patents or Know-How held or otherwise controlled by an Acquisition Affiliate immediately prior to the Acquisition Event between Hybridon and such Acquisition Affiliate

(as defined in Section 1.4 below), other than Patents that do not specifically relate to drug delivery or formulation technology held or otherwise controlled by any such Acquisition Affiliate that would, but for a license granted hereunder, be infringed by the development or commercialization of IMO Candidates or IMO Leads and (b) Patents or Know-How developed or acquired and controlled by an Acquisition Affiliate after the Acquisition Event between Hybridon and such Acquisition Affiliate that specifically relate to drug delivery or formulation technology, which Patents or Know-How are not developed or acquired through the use of, or as an improvement to, any Hybridon Intellectual Property or Hybridon Background Intellectual Property Controlled (other than through an Acquisition Affiliate) by Hybridon.

1.4. "ACQUISITION EVENT" shall mean any merger or other acquisition between Hybridon and a Third Party occurring after the Effective Date and pursuant to which such Third Party becomes an Affiliate of Hybridon, so long as following such merger or acquisition Hybridon does not control and is not merged with or into such Affiliate (an "Acquisition Affiliate").

1.5. "ADDITIONAL INDICATION" shall have the meaning set forth in Section 4.1 hereof.

1.6. "AFFILIATE" means any Person who directly or indirectly controls or is controlled by or is under common control with a Party. For purposes of this definition, "control" or "controlled" means ownership directly or through one or more Affiliates, of fifty percent (50%) or more of the shares of stock entitled to vote for the election of directors, in the case of a corporation, or fifty percent (50%) or more of the equity interest in the case of any other type of legal entity, status as a general partner in any partnership, or any other arrangement whereby a Party controls or has the right to control the Board of Directors or equivalent governing body of

a corporation or other entity, or the ability to cause the direction of the management or policies of a corporation or other entity. The Parties acknowledge that in the case of certain entities organized under the laws of certain countries outside of the United States, the maximum percentage ownership permitted by law for a foreign investor may be less than fifty percent (50%), and that in such case such lower percentage shall be substituted in the preceding sentence; provided, that such foreign investor has the power to direct the management and policies of such entity.

1.7. "ARBITRATORS" shall have the meaning set forth in Section 14.3.1 hereof.

1.8. "BANKRUPT PARTY" shall have the meaning set forth in Section 10.4 hereof.

1.9. "CHEMICALLY MODIFY" OR "CHEMICAL MODIFICATION" shall mean the modification of an IMO that [**], but specifically excluding [**].

1.10. "COLLABORATION AGREEMENT" shall have the meaning set forth in the preamble.

1.11. "COMMERCIAL FIELD OF USE" shall mean prophylaxis, palliation, diagnosis and treatment of the Initial Indications and Additional Indications added pursuant to Article IV hereof by Products via any route of administration.

1.12. "COMMERCIALIZATION OPTION" shall have the meaning set forth in Section 4.2.1 of the Collaboration Agreement.

1.13. "CONFIDENTIAL INFORMATION" shall have the meaning set forth in Section 7.1 hereof.

1.14. "CONTROLLED" shall mean, with respect to intellectual property, the legal authority of a Party (either directly or through an Affiliate) to grant the licenses or sublicenses of intellectual property rights as and to the extent provided herein, or to otherwise disclose proprietary or trade secret information as and to the extent provided herein, without breaching the terms of any agreement with a Third Party, knowingly infringing upon the intellectual property rights of a Third Party, or misappropriating the proprietary or trade secret information of a Third Party.

1.15. "COST OF GOODS SOLD" shall mean the total Product cost (standard cost of

goods), variances, inventory re- / devaluation costs, non-Product-related production costs, write-offs and Third Party royalties other than Section 5.6.2 royalties. The total Product cost is the total of material costs and processing costs pertaining to the Products. Material costs relate to costs of devices used to administer the Product, raw materials and intermediates needed for the manufacturing process and costs of packaging material for these raw materials and intermediates. Processing costs shall mean costs for direct labor, costs of equipment, costs of production area overhead, costs of quality assurance, costs of material handling overhead, costs of general factory overhead, costs for utilities and costs for ecology. These costs are to be established on a regular, standard basis. In this standard setting process all relevant costs as mentioned above are determined. Costs of equipment shall be based on a planned utilization of equipment. Idle capacity costs are not to be included in processing costs. Costs of equipment are costs of depreciation or rent of the building accommodating that equipment plus repair and maintenance for the building, and costs for equipment depreciation, and other equipment costs such as costs for repair and maintenance. The building costs shall be allocated to the equipment using an appropriate key such as space occupied by the equipment. Production area overhead costs are costs for personnel which typically embraces a controlling and supervisory function, costs of indirect space such as costs for a break room, costs of in-process control, costs of microbiological monitoring of production environment, costs of training of process personnel, costs for utilities and ecology, costs for auxiliary and consumables, costs of shop floor control systems, costs for cleaning of production buildings, and costs of working clothes. Quality assurance costs include costs of identifying and analyzing the raw materials and intermediates needed for the manufacturing process, costs of finished Product control, costs of production support, costs of cleaning validation, costs of electronic data processing for the quality assurance ("QA") / quality control ("QC") department, costs of microbiology department, costs of laboratory infrastructure, costs of quality systems support and compliance, costs of overheads within the QA/QC department. Materials handling overhead costs are costs for warehousing and internal transportation of raw material and semi-finished goods, costs of quality control of raw and packaging material, costs of the purchasing department. General factory overhead ("GFO") costs shall mean costs of plant and production management, costs for ensuring sufficient levels of safety, health and environment such as fire brigade, medical services, documentation for transportation of hazardous goods. Other GFO costs include costs for the scheduling of

production, costs of the maintenance of the bills of materials, costs for the technical support, expenses of the plant administration and general services, costs of information technology ("IT") for non-dedicated IT systems such as SAP. Utility costs are costs associated with the consumption of supportive media such as electricity, water, nitrogen, steam, and air. Ecology costs are costs associated with the deposition of solid or liquid waste, purification of effluent water, and purification of waste air. Variance costs attribute to the following circumstance: Standard Cost of Goods include cost elements which are set at so-called standard costs. They serve as a norm on how much typically a Product costs. Deviations from such standard costs are captured in variances. Inventory re- / devaluation shall mean the gain or loss as a result of the inventory value adjustment due to changes in the standard costs. Non-Product-related production costs shall contain Technical Operations Corporate Headquarter overhead costs, non-Product-allocated QA costs, validation costs, directly expensed IT project costs, and other costs that cannot be attributed to specific Products. Write-offs are captured for the destruction of Products that cannot be used anymore due to expiration of shelf-life, spoilage in the production process, and transportation mishaps. Third Party royalties are manufacturing- and/or supply royalties paid to Third Parties other than Section 5.6.2 royalties. Costs of Goods Sold shall be determined in accordance with Novartis' usual and customary accounting methods, which are in accordance with the Accounting Standards.

1.16. "EFFECTIVE DATE" shall have the meaning set forth in Section 2.1 hereof.

1.17. "EMEA" shall mean the European Medical Evaluation Agency, and any successor agency serving the same function.

1.18. "EPIGENESIS" shall mean EpiGenesis Pharmaceuticals, Inc.

1.19. "EPIGENESIS AGREEMENT" shall mean that certain Development and License Agreement, dated as of August 9, 2000, between Hybridon and EpiGenesis.

1.20. "EUROPEAN MARKETING APPROVAL" shall mean Marketing Approval by (i) the EMEA or (ii) the regulatory authorities in no fewer than three of the Major Market Countries.

1.21. "EVENT OF BANKRUPTCY" shall have the meaning set forth in Section 10.4 hereof.

1.22. "EXCLUDED ANTISENSE IP" shall mean oligonucleotides or oligonucleotide analogs or mimics thereof that (a) are targeted to a specific sequence of RNA and (b) the primary mechanism of action of which is to hybridize to such sequence of RNA and through such hybridization to modulate the production of the targeted gene product, provided, that such oligonucleotides or oligonucleotide analogs or mimics thereof [**] proprietary to Hybridon, [**].

1.23. "FDA" shall mean the United States Food and Drug Administration, and any successor agency serving the same function.

1.24. "FIRST COMMERCIAL SALE" shall mean the first shipment of a Product to a Third Party (other than to licensees or sublicensees for resale rather than their own use) by Novartis or its Affiliate or sublicensee in a country following applicable Regulatory Approval of the Product in such country or, if no Regulatory Approval is required in a country, the first sale of the Product in an arm's-length for-profit transaction to a Third Party (other than to licensees or sublicensees for resale rather than their own use) by Novartis or its Affiliate or sublicensee in such country.

1.25. "FPFV" shall mean the first visit of the first patient or first healthy human volunteer participating in a clinical trial with respect to a Licensed IMO.

1.26. "HYBRIDON BACKGROUND INTELLECTUAL PROPERTY" shall mean all Patents and Know-How Controlled by Hybridon as of the Effective Date or at any time during the term of this License Agreement that are necessary or useful for the Parties or their Affiliates, contractors, agents or sublicensees to exploit the licenses contemplated or to carry out the activities contemplated hereunder and that are not otherwise Hybridon Intellectual Property or Joint Intellectual Property. Notwithstanding the foregoing, "Hybridon Background Intellectual Property" shall exclude any Acquisition Intellectual Property.

1.27. "HYBRIDON INTELLECTUAL PROPERTY" shall mean Hybridon Know-How and Hybridon Patent(s), but explicitly excluding Joint Intellectual Property and any Acquisition Intellectual Property.

1.28. "HYBRIDON KNOW-HOW" shall have the meaning set forth in Section 1.27 of the Collaboration Agreement.

1.29. "HYBRIDON PATENTS" shall have the meaning set forth in Section 1.28 of the Collaboration Agreement. Upon Novartis' exercise of the Commercialization Option, a list of Hybridon Patents shall be appended hereto as Schedule 1.29, which will be updated periodically to reflect additions thereto during the course of this License Agreement.

1.30. "IMO" shall have the meaning set forth in Section 1.29 of the

Collaboration Agreement.

1.31. "IMO CANDIDATE" shall have the meaning set forth in Section 1.30 of the Collaboration Agreement.

1.32. "IMO LEAD" shall have the meaning set forth in Section 1.31 of the Collaboration Agreement.

1.33. "IMPROVEMENTS" shall have the meaning set forth in Section 1.32 of the Collaboration Agreement.

1.34. "INDEMNIFYING PARTY" shall have the meaning set forth in Section 13.3 hereof.

1.35. "INDEMNIFIED PERSON" shall have the meaning set forth in Section 13.3 hereof.

1.36. "INITIAL INDICATIONS" shall mean all human allergic and/or respiratory diseases, but specifically excluding oncology and infectious diseases (other than cystic fibrosis, asthma and chronic obstructive pulmonary disease pathologies, in each case resulting from infectious diseases) and systemic autoimmune diseases.

1.37. "JOINT INTELLECTUAL PROPERTY" shall mean Joint Know How and Joint Patent(s).

1.38. "JOINT KNOW-HOW" shall have the meaning set forth in Section 1.39 of the Collaboration Agreement.

1.39. "JOINT PATENTS" shall have the meaning set forth in Section 1.40 of the Collaboration Agreement. Upon Novartis' exercise of the Commercialization Option, a list of Joint Patents shall be appended hereto as Schedule 1.39, which list will be updated periodically

to reflect additions thereto during the course of this License Agreement.

1.40. "LICENSED IMOS" shall mean the IMO Candidates and IMO Leads.

1.41. "LOSS" shall have the meaning set forth in Section 13.1 hereof.

1.42. "MAJOR MARKET COUNTRIES" shall mean the United Kingdom, France, Germany, Italy and Spain.

1.43. "MARKETING APPROVAL" shall mean the final Regulatory Approval that ultimately enables Novartis, its Affiliates or sublicensees, directly or through intermediaries, to sell a Product commercially to the ultimate consumer in a particular country.

1.44. "MHLW" shall mean the Japanese Ministry of Health, Labor and Welfare, and any successor agency serving the same function.

1.45. "NET SALES" shall mean, with respect to any Product, the gross amount invoiced by or on behalf of Novartis or its Affiliates or sublicensees for that Product sold to Third Parties (other than to licensees or sublicensees for resale rather than their own use) in bona fide, arm's-length transactions, less the following deductions, determined in accordance with Novartis' standard accounting methods as generally and consistently applied by Novartis and its Affiliates in determining net product sales, to the extent included in the gross invoiced sales price of any Product or otherwise directly paid or incurred by Novartis, its Affiliates, or sublicensees with respect to the sale of such Product:

(a) Normal and customary trade and quantity discounts actually allowed and properly taken directly with respect to sales of the Product;

(b) Amounts repaid or credited by reason of defects, rejection recalls, returns, rebates and allowances of goods, or because of retroactive price reductions specifically identifiable to the Product;

(c) Chargebacks and other amounts paid on the sale or dispensing of such Product;

(d) Amounts payable resulting from governmental (or agency thereof) mandated rebate programs;

(e) Tariffs, duties, excise, sales, value-added, and other taxes (other than taxes based on income);

(f) Retroactive price reductions that are actually allowed or granted;

(g) Cash discounts for timely payment;

(h) Delayed ship order credits;

(i) Discounts pursuant to indigent patient programs and patient discount programs, including, without limitation, "Together Rx" and coupon discounts;

(j) All freight, postage and insurance included in the invoice price;

(k) Uncollectible amounts on previously sold Products that are written off for financial reporting purposes (provided that if any such amounts are subsequently collected, such amounts shall be included in Net Sales upon such collection);

(l) [**] percent ([**]%) for distribution and warehousing expenses; and

(m) Any other specifically identifiable amounts included in the gross invoice of the Product that should be credited for reasons substantially equivalent to those listed above;

all as determined in accordance with Novartis' usual and customary accounting methods, which are in accordance with the Accounting Standards. Sales from Novartis to its Affiliates and sublicensees shall be disregarded for the purpose of calculating Net Sales. Any of the items set forth above that would otherwise be deducted from the invoice price in the calculation of Net Sales but which are separately charged to Third Parties (other than licensees or sublicensees) shall not be deducted from the invoice price in the calculation of Net Sales.

Furthermore:

(i) In the case of any sale or other disposal of a Product between or among Novartis and its Affiliates, licensees and sublicensees for resale, Net Sales shall be calculated as above only on the value charged or invoiced on the first arm's-length sale thereafter to a Third Party (other than licensees or sublicensees);

(ii) In the case of any sale which is not invoiced or is delivered before invoice, Net Sales shall be calculated at the time of shipment or when the Product is paid for, if paid for before shipment or invoice;

(iii) In the case of any sale or other disposal for value, such as barter or countertrade, of any Product, or part thereof, other than in an arm's-length transaction exclusively for money, Net Sales shall be calculated as above on the value of the non-cash consideration received or the fair market price (if higher) of the Product in the country of sale or disposal; and

(iv) In the event that the Product is sold in a finished

dosage form containing the Licensed IMO in combination with one or more other active ingredients (a "Combination Product"), the Net Sales of the Product, for the purpose of determining royalty payments, shall be determined by multiplying the Net Sales (as defined above in this Section) of the Combination Product by the fraction A/(A+B), where A is the weighted (by sales volume) average sales price in a particular country of the Product when sold separately in finished form and B is the weighted average sales price in that country of the other product(s) sold separately in finished form. In the event that such average sales price cannot be determined for both the Product and the other product(s) in the combination, Net Sales for purposes of determining royalty payments shall be agreed by the Parties based on the relative value contributed by each component, and such agreement shall not be unreasonably withheld.

1.46. "NON-SECTION 5.2 PRODUCTS" shall have the meaning set forth in Section 5.3.2 hereof.

1.47. "NON-VALID CLAIM COUNTRY" shall mean a country in which no Valid Claim with respect to the applicable Hybridon Patent, Patent that is part of the Hybridon Background

Intellectual Property, or Joint Patent in which Hybridon retains an interest has existed during the term of this License Agreement.

1.48. "PATENTS" shall mean all existing patents and patent applications and all patent applications hereafter filed, including any continuation, continuation-in-part, divisional, provisional or any substitute applications, any patent issued with respect to any such patent applications, any reissue, reexamination, renewal or extension (including any supplementary protection certificate) of any such patent, and any confirmation patent or registration patent or patent of addition based on any such patent, and all foreign counterparts of any of the foregoing.

1.49. "PERSON" shall mean, any individual, corporation, partnership, association, joint-stock company, trust, unincorporated organization or government or political subdivision thereof.

1.50. "PHASE IIB CLINICAL TRIAL" shall mean a human clinical trial, the principal purpose of which is to allow selection of the particular doses to be applied in a Phase III Clinical Trial.

1.51. "PHASE III CLINICAL TRIAL" shall mean a human clinical trial, the principal purpose of which is to establish safety and efficacy of one or more particular doses in patients being studied, and which will (or are intended to) satisfy the requirements of a pivotal trial for purposes of preparing and submitting a filing for Regulatory Approval in a particular country.

1.52. "PRODUCT" shall mean a pharmaceutical product including, conjugated to, or comprised of, a Licensed IMO with or without other active ingredients in finished dosage form, ready for administration to the ultimate consumer, and any Improvements thereto.

1.53. "PROVIDING PARTY" shall have the meaning set forth in Section 7.1 hereof.

1.54. "RECEIVING PARTY" shall have the meaning set forth in Section 7.1.1 hereof.

1.55. "REGULATORY APPROVAL" shall mean all authorizations by the appropriate governmental entity or entities necessary for commercial sale of a Product in a particular country including, without limitation and where legally necessary prior to commercial sale, approval of labeling, price, reimbursement and manufacturing.

1.56. "RESEARCH FIELD OF USE" shall have the meaning set forth in Section 1.60 of the Collaboration Agreement.

1.57. "SALES REPORT" shall mean a written report or reports showing each of: (a) the Net Sales of each Product in each country in the world during the reporting period by Novartis and each Affiliate and sublicensee; (b) the royalties, payable in United States Dollars, which shall have accrued under Section 5.5 hereof in respect of such Net Sales and the basis of calculating those royalties; (c) withholding taxes, if any, required by law to be deducted in respect of any such Net Sales; and (d) dispositions of the Products other than pursuant to sale for cash.

1.58. "SECTION 5.2 PRODUCTS" shall have the meaning set forth in Section 5.2 hereof.

1.59. "SECTION 10.3 DISPUTE" shall have the meaning set forth in Section 14.3 hereof.

1.60. "THIRD PARTY" shall mean any Person that is not a Party or an Affiliate of either Party.

1.61. "VALID CLAIM" shall mean a claim of any issued, unexpired Hybridon Patent or Joint Patent in which Hybridon retains an interest that shall not have been withdrawn, canceled or disclaimed, nor held invalid or unenforceable by a governmental authority or a court of competent jurisdiction in an unappealed or unappealable decision, and which has not been admitted to be invalid or unenforceable through reissue, disclaimer or otherwise.

1.62. "VALID CLAIM COUNTRY" shall mean, with respect to a Product, a country in which a Valid Claim with respect to the applicable Hybridon Patent or Joint Patent in which Hybridon retains an interest has existed during the term of this License Agreement.

ARTICLE II

EFFECTIVENESS; RIGHTS AND LICENSES

2.1. EFFECTIVENESS. Subject to Section 12.3 hereof, this License Agreement (other than this Section 2.1, which shall become effective upon execution by the Parties of this

License Agreement) shall become effective on the date on which Hybridon is deemed to have received the Commercialization Exercise Notice from Novartis pursuant to Section 4.2.2 of the Collaboration Agreement or in connection with termination of the Collaboration Agreement as set forth in Section 9.3.3 thereof (the "Effective Date").

2.2. NOVARTIS RIGHTS; LIMITATIONS.

2.2.1. Subject to the other provisions of this License Agreement, Hybridon grants to Novartis and its Affiliates a worldwide, exclusive license (with the right to sublicense) for the term, subject only to Hybridon's retained right to perform its obligations under the Collaboration Agreement so long as such Collaboration Agreement is still in effect and subject to the rights granted by Hybridon to EpiGenesis under the EpiGenesis Agreement, under the Hybridon Intellectual Property and Hybridon's interest in the Joint Intellectual Property, to: (i) make, have made, use, have used, research, have researched, develop, have developed, commercialize, have commercialized, manufacture, have manufactured, promote, have promoted, sell, have sold, distribute, have distributed, market, have marketed, import, have imported, export and have exported, the Licensed IMOs and Products in the Commercial Field of Use and (ii) research, have researched, develop and have developed Licensed IMOs in the Research Field of Use.

2.2.2. Subject to the other provisions of this License Agreement, Hybridon grants to Novartis and its Affiliates a worldwide, non-exclusive license (with the right to sublicense) for the term under the Hybridon Background Intellectual Property to (i) to make, have made, use, have used, research, have researched, develop, have developed, commercialize, have commercialized, manufacture, have manufactured, promote, have promoted, sell,

have sold, distribute, have distributed, market, have marketed, import, have imported, export and have exported, the Licensed IMOs and Products in the Commercial Field of Use and (ii) research, have researched, develop and have developed Licensed IMOs in the Research Field of Use.

2.2.3. Notwithstanding the foregoing and subject to Section 4.2 hereof, nothing herein shall give Novartis or its Affiliates the right to, and Novartis shall not (and shall not permit its Affiliates to): (i) Chemically Modify any Licensed IMO or use the Hybridon Intellectual Property to create any immunomodulatory oligonucleotide that is the same or

substantially structurally equivalent to any Licensed IMO or that is covered by any claims in the Hybridon Patents; or (ii) conduct any clinical trial designed to support an indication outside the Commercial Field of Use without Hybridon's consent.

2.2.4. Any sublicense granted by Novartis pursuant to this License Agreement must be granted pursuant to a written agreement that subjects the sublicensee to not less than the relevant restrictions, limitations and obligations in this License Agreement. Novartis shall remain primarily responsible for all of its obligations under this License Agreement and shall take prompt action to enforce its rights against its sublicensees should any such sublicensee breach its obligation to comply with the restrictions, limitations or obligations set forth in this License Agreement. Novartis shall designate Hybridon as a third party beneficiary if Hybridon is damaged as a result of any breach by a sublicensee of any relevant restriction, limitation, or obligation pertaining to this License Agreement.

2.3. IMMUNITY FROM SUIT. In the event that the exercise by Novartis and/or its Affiliates or sublicensees of the licenses and rights granted pursuant to this License Agreement would infringe during the term of this License Agreement a claim of an issued Patent Controlled by Hybridon, which Patent is not otherwise covered by the grant in Section 2.2 or any Acquisition Intellectual Property, Hybridon hereby grants to Novartis and its Affiliates or sublicensees a worldwide, non-exclusive, royalty-free license and immunity from suit by Hybridon and its Affiliates under such issued Patent for Novartis, its Affiliates and or sublicensees to discover, research, develop, make, use, import, export, distribute, market, promote, offer for sale, and sell the Licensed IMOs and the Products in the Commercial Field of Use.

2.4. TECHNOLOGY NECESSARY TO THE LICENSE. If Hybridon conceives and reduces to practice during the term of this License Agreement any new technology relating to a Licensed IMO or Product and such new technology is necessary to Novartis' exercise of its licensed rights pursuant to this License Agreement, which technology is not otherwise covered by the grant in Section 2.2, then Hybridon hereby grants to Novartis and its Affiliates and sublicensees a worldwide, non-exclusive, royalty-free license under such new technology to discover and have discovered, research and have researched, develop and have developed, make and have made, use and have used, import and have imported, export and have exported, distribute and have

distributed, market and have marketed, promote and have promoted, offer for sale and have offered for sale, sell and have sold such new technology in connection with the Licensed IMO or the Product in the Commercial Field of Use.

ARTICLE III

DEVELOPMENT AND COMMERCIALIZATION

3.1. DEVELOPMENT AND COMMERCIALIZATION RIGHTS. The rights granted to Novartis pursuant to Section 2.2 are exclusive to Novartis, even as to Hybridon, subject to Hybridon's right to perform its obligations under the Collaboration Agreement and subject to 35 USC Sections 200-212, 37 CFR Section 401 et seq. and related governmental implementing regulations, as applicable.

3.2. TRADEMARK AND TRADENAME RIGHTS. Novartis, its Affiliates and sublicensees shall be entitled, in their sole discretion, to select the trademarks and tradenames for all Products, which trademarks and tradenames for any Product may vary by country or within a country, in Novartis' sole discretion. Novartis shall own all right, title and interest in and to such trademarks and tradenames, and Hybridon shall have no rights with respect to any such trademarks and tradenames.

3.3. INFORMATION TRANSFER. Within sixty (60) days after the Effective Date, Hybridon shall promptly deliver to Novartis all information (including, without limitation, Know-How) of Hybridon and its Affiliates that is necessary or useful, or is reasonably requested by Novartis, for further development, manufacture and commercial exploitation and distribution of a Licensed IMO or Product subject to any confidentiality obligations owed by Hybridon to Third Parties. Subject to the foregoing, such information (including, without limitation, Know-How) shall include a summary of all material written communications between Hybridon or its other licensees and the FDA concerning the Licensed IMO or Product and shall also include copies of all Patents, copyrights, copyright registrations and applications therefor and all other manifestations of the intellectual property related to the Licensed IMO or Product of Hybridon or its Affiliates, whether in human or machine readable form, and, if commercially and technically reasonable, in an electronic form compatible with Novartis' systems; provided that Novartis shall only reimburse Hybridon's costs of providing data in a form compatible with its systems so long

as Hybridon has provided Novartis with a reasonably detailed description of such costs and obtained Novartis' prior written approval to incur such costs. Novartis shall reimburse such pre-approved costs actually incurred by Hybridon within [**] days after receipt by Novartis of Hybridon's Invoice for the same.

3.4. REGULATORY APPROVALS. Novartis, its Affiliates and sublicensees will be responsible for all required Regulatory Approvals. All filings will be made by Novartis, its Affiliates or sublicensees. All Regulatory Approvals will be held in the name of Novartis, its Affiliates or sublicensees. Novartis, its Affiliates or sublicensees shall have the right to, and Hybridon shall provide the requisite notification to regulatory authorities to, cross reference any relevant information such as but not limited to any clinical and pre-clinical files and regulatory filings, such as but not limited to Drug Master Files of Hybridon and its Affiliates, with respect to Licensed IMOs and Products, for the purpose of regulatory filings hereunder.

3.5. DEVELOPMENT AND COMMERCIALIZATION EFFORTS. Novartis shall use commercially reasonable efforts, similar to those used by Novartis or its Affiliates in the research, development and commercialization of other products of Novartis or its Affiliates that are of similar commercial potential and at a similar stage of development, to develop and commercialize Products hereunder.

ARTICLE IV

ADDITIONAL INDICATION OPTION

4.1. ADDITIONAL INDICATION OPTION. Subject to Section 4.2 hereof, Novartis shall have the option (each, an "Additional Indication Option") to include one or more additional indications (each, an "Additional Indication") in the Commercial Field of Use. Notwithstanding the foregoing, Novartis shall not have the right to expand the Commercial Field of Use to include oncology indications, non-human indications, or infectious disease indications not originally included in the Commercial Field of Use.

4.2. EXERCISE OF AN ADDITIONAL INDICATION OPTION. If Novartis generates pre-clinical data that supports the inclusion of Additional Indication(s) in the Commercial Field of Use, Novartis may notify Hybridon that it wishes to include such Additional Indication(s) in

the Commercial Field of Use at any time after the second anniversary of the

Effective Date of the Collaboration Agreement (the "Option Notice"). Novartis shall provide Hybridon with a summary of the pre-clinical data that supports the inclusion of the Additional Indication(s), which Hybridon may use only in connection with its review of Novartis' exercise of the Additional Indication Option. Hybridon may not withhold its consent to the expansion of the Commercial Field of Use to include such Additional Indication(s) unless, as of the date on which Hybridon receives such Option Notice, Hybridon: (a) has granted exclusive rights to such Additional Indication(s) to a Third Party; (b) is actively negotiating with a Third Party to grant such rights; or (c) has [**] such Additional Indication(s) in which the first visit of the first patient has occurred. If Hybridon withholds its consent to the requested expansion for the reasons set forth above, Hybridon shall use good faith efforts to obtain for Novartis the agreement of such Third Party to negotiate a co-commercialization agreement with Novartis with respect to such Additional Indication(s). If Hybridon withholds its consent to the requested expansion because, as of the date on which Hybridon receives the Option Notice, Hybridon is actively negotiating with a Third Party to grant exclusive rights to the Additional Indication(s), but Hybridon does not grant such rights to such Third Party within [**] after the receipt of the Option Notice, Hybridon shall agree to the expansion of the Commercial Field of Use to include such Additional Indication(s). Novartis may submit multiple Option Notices during the term of this License Agreement; provided that Novartis may not submit an Option Notice covering Additional Indication(s) that are closely related to any Additional Indication(s) for which Novartis has submitted an Option Notice during the previous [**] period. Upon the successful exercise of an Additional Indication Option, the term "Commercial Field of Use" shall be deemed to include the Additional Indication(s) covered by such exercise.

ARTICLE V

MILESTONE AND ROYALTY PAYMENTS

5.1. OPTION EXERCISE FEE. Upon this License Agreement taking effect in accordance with Section 2.1 hereof and following delivery of the certificate set forth in Section 12.3 hereof and subject to the terms thereof, Novartis shall pay to Hybridon the sum of [**] U.S. Dollars (US$[**]) in accordance with Section 14.1 (Invoice Requirement).

5.2. MILESTONE PAYMENTS WITH RESPECT TO PRODUCTS FOR INITIAL INDICATIONS. Novartis shall notify Hybridon within thirty (30) business days after the occurrence of a milestone event for which payment is due pursuant to this Section 5.2. Each milestone payment set forth below shall be paid by Novartis to Hybridon with respect only to the first [**] Products originally developed for Initial Indications to achieve the related milestone ("Section 5.2 Products"). Notwithstanding the foregoing, achievement of a milestone by [**]Products that have the same active ingredient shall only trigger separate payments of the related milestone payment if such Products [**][**] that are separately approved by the FDA, the EMEA (or not less than [**] of the regulatory authorities of the Major Market Countries), or the MHLW, as applicable. Each milestone payment shall be paid in accordance with Section 14.1 (Invoice Requirement) following notice by Novartis that the applicable milestone has been met. The Parties agree that, if only one (1) Product is in either Phase IIb Clinical Trials or Phase III Clinical Trials at a particular time and Novartis, in its sole discretion, ceases development of such Product, then each milestone payment which has previously been paid for such Product pursuant to this Section 5.2 shall be credited as a milestone payment for the next Product developed for any Initial Indication(s). For clarity, the milestone payments set out in the following table shall be payable only once for each Product (and its related substituted Product if the original Product was abandoned) and shall be payable no more than an aggregate of [**] times as to all Products developed for Initial Indication(s) (even if there are more than [**] Products developed for Initial Indications). The Parties agree further that each of the [**] milestones in the table below shall be deemed to have occurred (and, if not made previously, the related milestone payment shall become payable) upon the occurrence of any subsequent milestone in the table below with respect to the same Product. Novartis may deduct from any milestone payments otherwise due to Hybridon under this Section 5.2 the amount of any

withholding and similar taxes required under applicable United States law to be withheld from such payments and paid to United States tax authorities.

MILESTONE	PAYMENT
[**]	US$[**]
[**]	US$[**]
[**]	US$[**]
[**]	US$[**]
[**]	US$[**]

5.3. MILESTONE PAYMENTS WITH RESPECT TO PRODUCTS FOR ADDITIONAL INDICATIONS. Novartis shall notify Hybridon within thirty (30) business days after the occurrence of a milestone event for which payment is due pursuant to this Section 5.3. Novartis shall pay to Hybridon milestone payments as set forth below with respect to certain Products developed for Additional Indications in accordance with Section 14.1 (Invoice Requirement). Novartis may deduct from any milestone payments otherwise due to Hybridon under this Section 5.3 the amount of any withholding and similar taxes required under applicable United States law to be withheld from such payments and paid to United States tax authorities.

5.3.1. Products for Which Milestones Are Payable Under Section 5.2. Novartis shall make the milestone payments set forth in the following table with respect to Section 5.2 Products that are later developed for Additional Indications. For clarity, if a Section 5.2 Product is developed for an Additional Indication, the achievement of each milestone set forth below with respect to the Additional Indication shall trigger payment of the related milestone payment regardless of whether the comparable payment has already been paid with respect to the Initial Indication. Notwithstanding the foregoing, achievement of milestones by [**] Products that have the same active ingredient shall only trigger separate payment of the related milestone payment if such Products have distinct formulations and distinct labels that are separately approved by the FDA, the EMEA (or not less than [**] of the regulatory authorities of the Major Market Countries), or the MHLW, as applicable. The Parties agree that, if Novartis, in its sole

discretion, ceases development of a Section 5.2 Product, then all milestone payments which have previously been paid for such Product pursuant to this Section 5.3.1 shall be credited as milestone payments for the next Section 5.2 Product or non-Section 5.2 Product developed for the same Additional Indication. For clarity, the milestone payments set out in the following table shall be payable only once for each Section 5.2 Product and its related substituted Section 5.2 Product or non-Section 5.2 Product developed for the same Additional Indication, if the original Section 5.2 Product was abandoned.

MILESTONE	PAYMENT
[**]	US$[**]
[**]	US$[**]
[**]	US$[**]

5.3.2. Products for Which Milestones Are Not Payable Under Section 5.2. Novartis shall make the milestone payments set forth in the following table with respect to Products, other than Section 5.2 Products, that are developed for Additional Indications ("non-Section 5.2 Products"). Notwithstanding the foregoing, achievement of milestones by [**] non-Section 5.2 Products that have the same active ingredient shall only trigger separate payment of the related milestone payment if such non-Section 5.2 Products have distinct formulations

and distinct labels that are separately approved by the FDA, the EMEA (or not less than [**] of the regulatory authorities of the Major Market Countries), or the MHLW, as applicable. The Parties agree that, if Novartis, in its sole discretion, ceases development of a non-Section 5.2 Product, then all milestone payments which have previously been paid for such non-Section 5.2 Product pursuant to this Section 5.3.2 shall be credited as milestone payments for the next Section 5.2 Product or non-Section 5.2 Product developed for the same Additional Indication. For clarity, the milestone payments set out in the following table shall be payable only once for each abandoned non-Section 5.2 Product and its related substituted Section 5.2 Product or non-Section 5.2 Product. The Parties agree further that, in the event that, for a particular non-Section 5.2 Product, the "Initiation of Phase III Clinical Trial" milestone is achieved prior to the achievement of the "Initiation of Phase IIb Clinical Trial" milestone for the same Product, then at

such time as the "Initiation of Phase III Clinical Trial" milestone is achieved, the milestone payments for both milestones shall become payable.

MILESTONE	PAYMENT
[**]	US$[**]
[**]	US$[**]
[**]	US$[**]
[**]	US$[**]
[**]	US$[**]

5.4. MILESTONE PAYMENT FOR $[**] IN NET SALES. For each of the first [**] Products for which worldwide Net Sales in a calendar year exceeds [**] U.S. Dollars (US$[**]), Novartis shall pay to Hybridon the sum of [**] U.S. Dollars (US$[**]) in accordance with Section 14.1 (Invoice Requirement) upon the first achievement of such milestone by each such Product. Notwithstanding the foregoing, achievement of the milestone by [**] Products that have the same active ingredient shall only trigger separate payment of the milestone payment if such Products have distinct formulations and distinct labels that are both approved by any of the FDA, the EMEA (or not less than [**] of the regulatory authorities of the Major Market Countries), or the MHLW.

5.5. ROYALTY PAYMENTS. Novartis shall make the following royalty payments to Hybridon on Net Sales of all Products on an aggregate, cumulative, basis in accordance with Section 6.1 hereof.

CUMULATIVE WORLDWIDE NET SALES FOR ALL PRODUCTS ON A COMBINED BASIS	ROYALTY IN VALID CLAIM COUNTRY	ROYALTY IN NON-VALID CLAIM COUNTRY
On Net Sales less than US$[**]	[**]%	[**]%
On the increment of Net Sales greater than or equal to US$[**] but less than US[**]	[**]%	[**]%
On the increment of Net Sales greater than or equal to US$[**]	[**]%	[**]%

For purposes of the second and third columns of the above table, the determination of whether particular Net Sales are subject to the royalty rate for Valid Claim Countries or the royalty rate for Non-Valid Claim Countries shall be made on a country-by-country and Product-by-Product basis.

5.6. REDUCED MILESTONE AND ROYALTY OBLIGATIONS. The obligation of

Novartis, its Affiliates and sublicensees to pay milestones and royalties to Hybridon under this License Agreement shall be reduced upon the occurrence of the following events:

5.6.1. In the event that Novartis terminates this License Agreement in accordance with Section 10.3, the rights of Novartis, its Affiliates and sublicensees under this License Agreement shall remain unaffected, but its milestone and post-termination royalty payment obligations shall be reduced by [**] percent ([**]%).

5.6.2. In the event that Novartis, its Affiliates or sublicensees is required to pay Third Party royalties, milestones or license fees in order to use a Licensed IMO or the Hybridon Intellectual Property or Hybridon Background Intellectual Property as contemplated hereunder, Novartis' obligation to pay royalties to Hybridon with respect to any Product(s) incorporating such Licensed IMO shall be reduced dollar for dollar on par with the amounts actually paid by Novartis, its Affiliate or sublicensee to such Third Party; provided that Novartis' milestone and royalty payment obligations pursuant to this License Agreement shall not be reduced by more than [**] percent ([**]%) of the amount that would otherwise be due from Novartis to Hybridon;

5.6.3. Notwithstanding the foregoing and the provisions of Section 5.7, Novartis' royalty obligations for any Product shall not in any case be reduced below [**] percent ([**]%) with respect to Net Sales in Valid Claim Countries or [**] percent ([**]%) with respect to Net Sales in Non-Valid Claim Countries.

5.7. COST OF GOODS SOLD ADJUSTMENT. For each Product, in any calendar quarter that the Cost of Goods Sold for such Product, expressed as a percentage of Net Sales, exceeds [**] percent ([**]%) on an aggregated, worldwide basis, then the royalty amounts payable by Novartis to Hybridon pursuant to Section 5.5 with respect to sales of such Product during such calendar quarter shall be reduced by one-third, subject to the minimum royalties set forth in

Section 5.6.3. Such reduced royalty rates shall remain in effect with respect to any given Product so long as Cost of Goods Sold continues to exceed [**] percent ([**]%) of Net Sales for such Product on an aggregated, worldwide basis. In the event that worldwide Cost of Goods Sold ceases to exceed [**] percent ([**]%) of Net Sales for such Product on an aggregated, worldwide basis, such reduction shall cease to apply unless and until Cost of Goods Sold again exceeds [**] percent ([**]%) of Net Sales as set forth herein. Novartis shall determine worldwide Cost of Goods Sold on a calendar quarterly basis, and, if Cost of Goods Sold exceeds [**] percent ([**]%) of Net Sales on an aggregated, worldwide basis, Novartis shall include Cost of Goods in its Sales Reports pursuant to Section 6.1.

ARTICLE VI

REPORTING OBLIGATIONS

6.1. QUARTERLY ROYALTY OBLIGATIONS. Within forty-five (45) days after the close of each calendar quarter (each such calendar quarter being sometimes referred to herein as a "reporting period") during the term of this License Agreement following the First Commercial Sale of a Product, Novartis shall furnish to Hybridon a Sales Report for Hybridon's review. Upon receipt of a Sales Report, Hybridon shall submit an invoice to Novartis substantially in the form of Exhibit A hereto for all undisputed royalty amounts due from Novartis. Novartis shall pay such royalty amounts within thirty (30) days after receipt of the invoice.

6.2. AUDITS. Novartis shall keep, and shall cause its Affiliates and sublicensees to keep, complete and accurate records of Net Sales relating to Sales Reports and payments required under Article V. Hybridon will have the right, at its own expense, except as specified below, to have an independent, certified public accountant, selected by it and reasonably acceptable to Novartis, review any such records of Novartis, its Affiliates and sublicensees in the location(s) where such records are maintained by Novartis, its Affiliates and sublicensees upon reasonable notice and during regular business hours and under obligations of confidence, for the sole purpose of verifying the basis and accuracy of payments made under Article V within the prior thirty-six (36) month

period. Notwithstanding the foregoing, Hybridon shall not be entitled to: (i) conduct any audit pursuant to this

Section 6.2 more frequently than once per year and (ii) review any records it has previously reviewed in connection with an audit pursuant to this Section 6.2 unless Novartis is required or elects to restate its accounts relating to such records. If the review of such records reveals that Novartis has failed to accurately report information pursuant to Section 6.1, then Novartis shall promptly pay to Hybridon any corresponding unpaid amounts due under Article V (together with interest at the rate of one percent (1%) per annum). If any such underpayment is greater than five percent (5%) of the amount actually due for any calendar year, Novartis shall pay all of the costs of such review.

6.3. EXCHANGE RATES. With respect to amounts invoiced in United States Dollars, all such amounts shall be expressed in United States Dollars. With respect to amounts invoiced in a currency other than United States Dollars, all such amounts shall be expressed both in the currency in which the amount was invoiced and in the United States Dollar equivalent. The United States Dollar equivalent shall be calculated using Novartis' then-current standard exchange rate methodology applied in its external reporting (for the purpose of clarity, this is ultimately based on official rates such as Reuters and the European Central Bank) for the conversion of foreign currency sales into United States Dollars.

6.4. CURRENCY OF ROYALTY PAYMENTS. All royalty payments due under this License Agreement shall be paid in United States Dollars.

ARTICLE VII

CONFIDENTIALITY

7.1. UNDERTAKING. Each Party shall keep confidential, and, other than as provided herein, shall not use or disclose, directly or indirectly, any trade secrets, confidential or proprietary information, or any other knowledge, information, documents or materials, owned, developed or possessed by the other Party (the "Providing Party"), whether in tangible or intangible form, the confidentiality of which such other Party takes reasonable measures to protect (collectively, "Confidential Information"). The Parties hereby agree that, for the purposes of this License Agreement, discussion between the Parties, if any, regarding Novartis' plans for developing and commercializing Licensed IMOs and Products will be deemed to be the confidential information of Novartis.

7.1.1. A Party receiving Confidential Information (the "Receiving Party") shall use commercially reasonable efforts not less than those efforts such Receiving Party uses to protect its own proprietary information to prevent the unauthorized use and disclosure of such information of the Providing Party and to prevent unauthorized persons or entities from obtaining or using such information.

7.1.2. The Receiving Party further agrees to refrain from directly or indirectly taking any action which would constitute or facilitate the unauthorized use or disclosure of Confidential Information. The Receiving Party may disclose Confidential Information to its Affiliates, officers, employees and agents, to authorized licensees and sublicensees, and to subcontractors in connection with the identification, generation, development and manufacture of Licensed IMOs, as applicable, to the extent necessary to enable such parties to perform their obligations hereunder or under the applicable license, sublicense or subcontract, as the case may be; provided, however, that such Affiliates, officers, employees, agents, licensees, sublicensees and subcontractors have entered into confidentiality agreements for secrecy and non-use of such Confidential Information offering no less than the protection afforded hereby which by their terms shall be enforceable by injunctive relief at the instance of the Providing Party.

7.1.3. The Receiving Party shall be liable for any unauthorized use

and disclosure of such information by its Affiliates, officers, employees and agents and any such sublicensees and subcontractors.

7.2. EXCEPTIONS.

7.2.1. Non-Confidential Information. Notwithstanding the foregoing, the provisions of Section 7.1 hereof shall not apply to Confidential Information that the Receiving Party can establish by clear and convincing evidence:

(a) have entered the public domain without such Receiving Party's breach of any obligation owed to the Providing Party;

(b) are or have become known to the Receiving Party from a source other than the Providing Party, other than by breach of an obligation of confidentiality owed to the Providing Party; or

(c) are independently developed by the Receiving Party without reference to or reliance upon knowledge, information, documents or materials of the Providing Party and without breach of this License Agreement.

7.2.2. Other Exceptions. In addition, a Receiving Party may, notwithstanding the obligations of Section 7.1, disclose Confidential Information:

(a) that the Receiving Party can establish by clear and convincing evidence is permitted to be disclosed by the prior written consent of the Providing Party;

(b) that the Receiving Party can establish by clear and convincing evidence is required to be disclosed by the Receiving Party to defend litigation or to comply with applicable laws or regulations (including without limitation disclosure obligations under applicable securities laws or the regulations of any stock exchange or NASDAQ), or in connection with filings with the FDA, the United States Patent and Trademark Office or other similar governmental agencies, provided that the Receiving Party provides prior written notice of such disclosure to the Providing Party and takes reasonable and lawful actions to avoid or minimize the degree of such disclosure; or

(c) concerning the existence and terms of this License Agreement and the status of transactions described herein, under obligations of confidentiality, to the Receiving Party's existing and potential advisors, investors that are bona fide venture capital or institutional investors that make such investments for the potential financial return and not for strategic purposes (so long as such investor does not have more than $1 billion in world-wide pharmaceutical revenue in the most recently completed calendar year) and any Person considering to acquire Hybridon or a controlling interest in Hybridon (a "Potential Acquirer"). Notwithstanding the foregoing, Hybridon shall not make any such disclosure to any Potential Acquirer (i) until discussions with such Potential Acquirer progress to a stage at which the Potential Acquirer is engaged in comprehensive due diligence of Hybridon's business and Hybridon has a good faith belief that the consummation of the proposed acquisition

has become reasonably likely to occur and (ii) unless the Potential Acquirer has entered into a confidentiality agreement at least as strict as the provisions of this Section 7.2.2(c), designating Novartis as a third party beneficiary and prohibiting the Potential Acquirer from disclosing or using for its own purposes (other than evaluation of the proposed transaction with Hybridon) any such information. Hybridon shall notify Novartis in writing prior to any disclosure pursuant to this Section 7.2.2(c), but shall not be required to disclose the identity of any Potential Acquirer until after consummation or

abandonment of the transaction, at which time Hybridon shall provide Novartis with a copy of the confidentiality agreement executed by such Potential Acquirer.

7.3. PUBLICITY. The Parties will agree upon the timing and content of any initial press release or other public communications relating to this License Agreement and the transactions contemplated herein.

7.3.1. Except as set forth in Section 7.3.2 or to the extent already disclosed in that initial press release or other public communication, no public announcement concerning the existence or the terms of this License Agreement or the transactions described herein shall be made, either directly or indirectly, by Hybridon or Novartis, except as may be legally required by applicable laws, regulations, or judicial order, without first obtaining the approval of the other Party and agreement upon the nature, text, and timing of such announcement.

7.3.2. Subject to this Article VII, a Party may issue press releases or make public communications or otherwise make disclosures that such Party determines to be necessary to comply with applicable law (including disclosure requirements of the U.S. Securities and Exchange Commission, NASDAQ or any stock exchange on which securities issued by such Party are traded); provided that such Party shall provide the other Party with a copy of the proposed text of such press releases, public communications or disclosure in advance of the scheduled release or publication thereof to afford such other Party a reasonable opportunity to review and comment upon the proposed text.

7.3.3. The Party desiring to make any such public announcement shall provide the other Party with a written copy of the proposed announcement in sufficient time (no less than

thirty (30) days or such shorter period as may be required to enable a Party to comply with applicable law) prior to public release to allow such other Party to comment upon such announcement, prior to public release.

7.4. SURVIVAL. The provisions of this Article VII shall survive for five (5) years after the expiration or termination of this License Agreement.

ARTICLE VIII

PUBLICATION

8.1. PUBLICATION. Hybridon and its Affiliates agree not to publish or publicly present any results, data, or scientific findings with respect to the Research Program (except in connection with filings with the FDA, the United States Patent and Trademark Office or other similar governmental entities in other countries or regions) without the prior written consent of Novartis. In publications authorized by Novartis pursuant hereto, each Party hereto shall acknowledge appropriately the contribution of the other Party.

8.2. SURVIVAL. The provisions of this Article VIII shall survive until expiration of this License Agreement.

ARTICLE IX

INTELLECTUAL PROPERTY RIGHTS

9.1. OWNERSHIP.

9.1.1. Subject to any licenses explicitly granted under this License Agreement, each Party shall retain its intellectual property rights in all Know-How and Patents Controlled by it on the Effective Date or developed or acquired solely by it thereafter. For avoidance of any doubts, Novartis shall retain ownership of all Novartis Intellectual Property, and Hybridon shall retain ownership of all Hybridon Intellectual Property and Hybridon Background Intellectual Property.

9.1.2. During the term of this License Agreement, each of Hybridon and Novartis will keep the other Party fully informed with respect to any new intellectual property invented or generated by it or its Affiliates under this

License Agreement.

(a) All intellectual property (including, without limitation, data, discoveries, technical information, Know-how, Patents, proprietary information, trade secrets and inventions) invented or generated under this License Agreement solely by one or more persons obliged to assign their rights to Novartis or its Affiliates during the term of this License Agreement shall be owned by Novartis;

(b) All intellectual property (including, without limitation, data, discoveries, technical information, Know-how, Patents, proprietary information, trade secrets and inventions) invented or generated under this License Agreement solely by one or more persons obliged to assign their rights to Hybridon or its Affiliates during the term of this License Agreement shall be owned by Hybridon and shall be deemed Hybridon Patents or Hybridon Know-How, as applicable;

(c) All intellectual property (including, without limitation, data, discoveries, technical information, Know-how, Patents, proprietary information, trade secrets and inventions) invented or generated jointly under this License Agreement by (i) one or more persons obliged to assign their rights to Novartis or its Affiliates and (ii) one or more persons obliged to assign their rights to Hybridon or its Affiliates during the term of this License Agreement shall be owned jointly by Novartis and Hybridon and shall be Joint Intellectual Property and, subject to Section 2.2.1, each Party shall have the right to use and exploit such Joint Intellectual Property without any duty to account to the other Party with respect to such use and exploitation. Each Party will take all reasonable actions requested by the other Party, including execution of appropriate patent filings and applications for registration, to perfect the requesting Party's ownership interest to the Joint Intellectual Property; and

(d) Questions of inventorship under this Section 9.1.2 shall be resolved in accordance with United States patent laws.

9.2. PREPARATION AND COSTS. Hybridon shall take responsibility and pay for the preparation, filing, prosecution and maintenance of all Hybridon Patents and Patents that are part of the Hybridon Background Intellectual Property, and Novartis shall take responsibility and pay for the preparation, filing, prosecution and maintenance of all Novartis Patents and Joint Patents;

provided that, with respect to (a) Hybridon Patents and Patents that are part of the Hybridon Background Intellectual Property that disclose or claim inventions applicable solely to the Licensed IMOs and (b) Joint Patents that disclose or claim inventions with applicability beyond the Licensed IMOs, the Party having responsibility for the preparation, filing, prosecution and maintenance of such Hybridon Patents, Patents that are part of the Hybridon Background Intellectual Property and Joint Patents shall promptly provide the other Party with copies of all substantive communications from any patent office and with drafts of all substantive filings to be made, reasonably in advance of their filing, with any patent office with respect thereto; shall consider in good faith any comments thereon provided by the other Party; and shall not unreasonably decline to incorporate changes to such filing proposed by such other Party. Each Party shall assist the other in the preparation and prosecution of such Patents and shall execute all documents reasonably deemed necessary for the filing thereof and/or for the vesting of title thereto as provided in this License Agreement. In good time, before the deadline for foreign filing of any patent application filed in the United States, Hybridon will notify Novartis whether it intends to foreign file such patent application, and if it intends to do so, in what countries it proposes to foreign file.

9.3. DISCONTINUATION. The Party initially responsible under Section 9.2 for the preparation, filing, prosecution and maintenance of a particular Patent for an invention arising under the Research Program shall give at least thirty

(30) days advance notice to the other Party of any decision to cease preparation, filing, prosecution or maintenance of that Patent. Discontinuation may be elected on a country-by-country basis or for a Patent application or Patent series in total. In such case, the other Party may elect, at its sole discretion, to continue preparation, filing, and prosecution or maintenance of the discontinued Patent at its sole expense.

9.4. THIRD PARTY INFRINGEMENT.

9.4.1. If either Party becomes aware of any activity that such Party believes represents an infringement of the claims of the Hybridon Patents, Patents that are part of the Hybridon Background Intellectual Property or Joint Patents with respect to a Licensed IMO or Product, the Party obtaining such knowledge shall advise the other of all relevant facts and circumstances pertaining to the potential infringement as soon as practicable.

9.4.2. Novartis shall have the first right, but no obligation, to initiate and prosecute such legal proceedings, at its own expense and in the name of Novartis, and to control the defense of any declaratory judgment action, if the infringing party is making, having made, using or selling a product, or proposing to do so, that is or may be competitive with the Licensed IMO or Product; provided, however, that no settlement shall be entered into by Novartis without the written consent (which consent shall not be unreasonably withheld) of Hybridon if such settlement would materially affect Hybridon's interests (including without limitation the validity or enforceability of any Hybridon Patent or Patent that is part of the Hybridon Background Intellectual Property). Hybridon shall reasonably cooperate with Novartis in such effort, including, without limitation, being joined as a party to such action, and Novartis shall reimburse Hybridon for the out-of-pocket costs and expenses incurred by Hybridon in so cooperating with Novartis. In deciding whether to pursue, and in the pursuit of such legal proceedings, Novartis will use diligent, commercially reasonable efforts consistent with those used by Novartis for its own compounds or products of similar commercial potential.

9.4.3. If Novartis does not succeed, within ninety (90) days after receiving notice from Hybridon of the potential infringement or within sixty (60) days after providing Hybridon with notice of such potential infringement, either in terminating such infringement or in instituting an action to prevent continuation thereof, or if Novartis notifies Hybridon that Novartis does not plan to seek to terminate the infringement or to institute any such action, then Hybridon shall have the right to do so at its own cost and expense. In such case, Novartis shall reasonably cooperate with Hybridon in such effort, including being joined as a party to such action, if necessary, and Hybridon shall reimburse Novartis for the out-of-pocket costs and expenses incurred by Novartis in so cooperating with Hybridon.

9.4.4. The costs and expenses (including attorneys' fees) of any action against an infringement brought in accordance with this Section 9.4, or to defend a declaratory judgment suit as provided in this Section 9.4, shall be borne by the Party controlling the infringement or declaratory judgment action.

9.4.5. Any monetary recovery obtained in legal proceedings brought against an infringer pursuant to Section 9.4.2 or 9.4.3, whether obtained by settlement, judgment or otherwise, shall first be applied to reimburse the Parties for the costs (including reasonable

attorneys' fees) that each incurred in connection with such legal action. If the monetary recovery is insufficient to fully reimburse both parties for all such costs, both parties shall receive the same percentage of their respective costs. The value of any monetary recovery remaining once both Parties have been reimbursed for all of their costs shall be treated as Net Sales and subject to earned royalties as set forth in Article V hereof.

9.4.6. Notwithstanding anything in this Section 9.4 to the contrary, Hybridon may participate, through its own counsel and at its own cost and

expense, in any proceeding involving a challenge to the validity or enforceability of any Hybridon Patent, Patent that is part of the Hybridon Background Intellectual Property or Joint Patent that relates to both a Licensed IMO and to IMO(s) that are not subject to the licenses granted to Novartis hereunder.

9.5. NOTIFICATION, DEFENSE AND SETTLEMENT OF THIRD PARTY CLAIMS.

9.5.1. Hybridon shall promptly notify Novartis in the event Hybridon becomes aware of the existence of any Third Party Patent that may be infringed by the making, having made, using, having used, developing, having developed, commercializing, having commercialized, manufacturing, having manufactured, promoting, having promoted, selling, having sold, distributing, having distributed, marketing, having marketed, importing, having imported, exporting or having exported of a Licensed IMO or Product.

9.5.2. If a Third Party asserts that a Patent owned by it is infringed by the making, having made, using, having used, developing, having developed, commercializing, having commercialized, manufacturing, having manufactured, promoting, having promoted, selling, having sold, distributing, having distributed, marketing, having marketed, importing, having imported, exporting or having exported of a Licensed IMO or Product, Novartis shall, subject to Section 5.6.2, defend and be solely responsible for defending, against any such assertions and controlling any related litigation at its own cost and expense. Hybridon shall reasonably cooperate with Novartis in such effort, including, without limitation, being joined as a party to such action, if necessary, and Novartis shall reimburse Hybridon for the out-of-pocket costs and expenses incurred by Hybridon in so cooperating with Novartis.

9.5.3. Notwithstanding anything in this Section 9.5 to the contrary, Hybridon may participate, at its own cost and expense, in any proceeding involving a challenge to the

validity or enforceability of any Hybridon Patent, Patent that is part of the Hybridon Background Intellectual Property or Joint Patent that relates to both a Licensed IMO and to IMO(s) that are not subject to the licenses granted to Novartis hereunder.

9.6. PIRATE GOODS. Novartis and its Affiliates shall exercise commercially reasonable efforts to monitor sales and take action to prevent trade in goods by a Third Party that violate Novartis' or its Affiliates' exclusive legal rights to market, price and sell a Product in such a market. In the event that Hybridon first becomes aware of such a trade in goods by a Third Party which violates Novartis' or its Affiliates' exclusive legal rights, Hybridon shall notify Novartis within seven (7) calendar days of first becoming aware of such trading by a Third Party.

9.7. DRUG PRICE COMPETITION AND PATENT TERM RESTORATION ACT AND PEDIATRIC EXCLUSIVITY.

9.7.1. The Parties shall cooperate in an effort to avoid the loss of any rights which may otherwise be available to the Parties under the provisions of the Drug Price Competition and Patent Term Restoration Act of 1984 or comparable laws outside of the United States and for pediatric exclusivity, and Novartis shall reimburse Hybridon in accordance with Section 14.1 (Invoice Requirement) for reasonable out-of-pocket costs and expenses incurred by Hybridon in so cooperating with Novartis.

9.7.2. Hybridon shall provide any relevant information related to Patents included in the Hybridon Intellectual Property, Hybridon Background Intellectual Property or Joint Intellectual Property to Novartis or its Affiliates such that Novartis or its Affiliates, as an NDA applicant, may provide accurate and complete information to the FDA or other applicable regulatory authorities.

ARTICLE X

TERM AND TERMINATION

10.1. TERM. The term of this License Agreement shall extend with

respect to each Product in each Valid Claim Country until the expiration of the last to expire of a Valid Claim

included in the Hybridon Patents or Joint Patents covering the Product in such country. In the case of a Non-Valid Claim Country, the term of this License Agreement shall extend with respect to each Product in each such country until the earlier of (a) the date that is ten (10) years after the date of the First Commercial Sale of the Product in such country or (b) the last day in any calendar year during which Novartis has lost market exclusivity with respect to such Product in such country. For purposes of this License Agreement, Novartis shall be deemed to have lost market exclusivity with respect to a Product in a particular country if annual Net Sales of such Product in such country have decreased by [**] percent ([**]%) from Net Sales in the previous calendar year. Once market exclusivity has been lost with respect to a Product in a particular country, Novartis' obligations to pay royalties hereunder shall expire with respect to such Product in such country. For each country, upon expiration of Novartis' obligation to pay royalties hereunder with respect to a Product, the licenses granted to Novartis in Section 2.2 shall convert to fully paid-up, royalty-free, perpetual licenses with respect to such Product, which licenses shall survive any expiration or termination of this Agreement.

10.2. TERMINATION BY NOVARTIS WITHOUT CAUSE. Upon sixty (60) days' written notice to Hybridon, Novartis may, at its sole discretion, unilaterally terminate this License Agreement on a Product-by-Product and/or country-by-country basis without cause.

10.3. MATERIAL BREACH. In the event either Party shall be in material breach of its obligations hereunder, the other Party may give written notice to the breaching Party specifying the claimed particulars of such breach, and, in the event such material breach is not cured, or effective steps to cure such material breach have not been initiated or are not thereafter diligently pursued within ninety (90) days following the date of such written notification, in addition to any other damages or remedies available to the non-breaching Party, the non-breaching Party shall have the right thereafter to terminate this License Agreement by giving not less than thirty (30) days prior written notice to the breaching Party to such effect. If the breaching Party disputes the basis for such termination, the breaching Party may institute an arbitration proceeding pursuant to Section 14.3 by notifying the other Party of such dispute as set forth in Section 14.3.1 prior to the effective date of termination as set forth in the immediately preceding sentence, and, in such event, the non-breaching Party shall not be entitled to terminate this License Agreement pursuant to this Section 10.3 unless and until the Arbitrators issue an order pursuant to Section 14.3

declaring that a material breach has occurred and all opportunities for appeal of such order have been exhausted.

10.4. BANKRUPTCY. If at any time during the term of this License Agreement, an Event of Bankruptcy (as defined below) relating to a Party (the "Bankrupt Party") occurs, the other Party shall have, in addition to all other legal and equitable rights and remedies available hereunder, the option to terminate this License Agreement upon thirty (30) calendar days' written notice to the Bankrupt Party. As used above, the term "Event of Bankruptcy" shall mean, with respect to a Party, (a) the dissolution, termination of existence or liquidation of the Party; (b) the institution of a bankruptcy action against the Party by a Third Party or the appointment of a custodian or receiver with respect to all or substantially all of the business or assets of the Party, which action, custodian or receiver is not terminated or dismissed within ninety (90) calendar days following institution or appointment; (c) the institution by the Party of any petition for relief or similar proceeding or the making by the Party with respect to all or substantially all of the business or assets of the Party of a composition or any assignment or trust mortgage for the benefit of creditors under any bankruptcy, reorganization, receivership or other similar law affecting the rights of creditors generally; or (d) the insolvency of the Party.

10.5. EFFECT OF TERMINATION.

10.5.1. Upon termination of this License Agreement by Novartis pursuant to Section 10.2 with respect to all Products and all countries covered by this License Agreement or by Hybridon pursuant to Section 10.3 or 10.4: (a) except with respect to any provision hereof that by its terms survives termination and any payment obligation of Novartis that has accrued prior to the date of termination, all rights and obligations of the Parties under this License Agreement shall terminate; (b) all license rights granted by Hybridon to Novartis hereunder shall revert to Hybridon; and (c) each Party shall return to the other all Confidential Information of a Providing Party, provided, however, that the Parties may each retain a copy of such Providing Party's Confidential Information in segregated files solely for archival purposes.

10.5.2. Upon termination of this License Agreement by Novartis pursuant to Section 10.2 with respect to fewer than all the Products or countries covered by this License Agreement: (a) except with respect to any provision hereof that by its terms survives termination

and any payment obligation of Novartis that has accrued prior to the date of termination, all rights and obligations of the Parties under this License Agreement with respect to such country and/or Product subject to such termination shall terminate; and (b) all license rights granted by Hybridon to Novartis hereunder with respect to such country and/or Product subject to such termination shall revert to Hybridon.

10.5.3. In the case of termination by Novartis pursuant to Section 10.3, all rights of Novartis shall survive, and all rights of Hybridon shall terminate other than Hybridon's rights under Sections 5.2 through 5.7 of Article V (Milestone and Royalty Payments), except that the royalty payable to Hybridon pursuant to Section 5.5 shall be reduced by [**] percent ([**]%) as provided in Section 5.6.1, Section 14.6 (Force Majeure) and Articles VII (Confidentiality), X (Term and Termination) and XIII (Indemnification).

10.5.4. In the case of termination by Novartis pursuant to Section 10.4, all rights of Novartis shall survive, and all rights of Hybridon shall terminate other than Hybridon's rights under Sections 5.2 through 5.7 of Article V (Milestone and Royalty Payments), Section 14.6 (Force Majeure), and Articles VII (Confidentiality), X (Term and Termination) and XIII (Indemnification).

ARTICLE XI

EXCLUSIVITY

During the term of this License Agreement, Hybridon shall neither grant to any Third Party rights to any immunomodulatory oligonucleotide other than Excluded Antisense IP in the Commercial Field of Use, nor shall Hybridon develop or commercialize, directly or indirectly, any immunomodulatory oligonucleotide other than Excluded Antisense IP in the Commercial Field of Use. Furthermore, during the term of this License Agreement, Hybridon shall neither grant to any Third Party rights to any Licensed IMO for any indication, nor shall Hybridon develop or commercialize, directly or indirectly, any such Licensed IMO. Notwithstanding the foregoing, nothing in this License Agreement shall restrict or prohibit Hybridon from performing its obligations or exercising its rights under the Collaboration Agreement.

ARTICLE XII

REPRESENTATIONS AND WARRANTIES

12.1. REPRESENTATIONS AND WARRANTIES OF HYBRIDON. Hybridon hereby represents and warrants to Novartis that the statements in this Section 12.1 are true and accurate as of the date of this License Agreement and as of the Effective Date:

12.1.1. Authorization. This License Agreement has been duly executed and delivered by Hybridon and constitutes the valid and binding obligation of Hybridon, enforceable against Hybridon in accordance with its terms, except as enforceability may be limited by fraudulent conveyance, insolvency, bankruptcy, reorganization, moratorium and other laws relating to or affecting creditors' rights generally and by general equitable principles. The execution, delivery and performance of this License Agreement have been duly authorized by all necessary action on the part of Hybridon, its officers and directors. No provision of this License Agreement violates any other agreement that Hybridon may have with any other person or company, and Hybridon acknowledges that Novartis has relied on that representation in entering into this License Agreement.

12.1.2. Hybridon Controlled Rights. Hybridon owns or possesses adequate licenses or other rights to use all Hybridon Intellectual Property and Hybridon Background Intellectual Property and to grant the licenses and perform the obligations contemplated herein. The granting of the licenses to Novartis hereunder does not violate any right known to Hybridon of any Third Party.

12.1.3. Third Party Patents. Except as disclosed in writing between the Parties to this License Agreement or their respective agents to Hybridon's best knowledge, after reasonable inquiry, there are no issued patents or pending patent applications that, if issued, would be infringed by the exercise by Novartis of the rights granted herein or the research, development, manufacture, use or sale of the Licensed IMOs pursuant to this License Agreement.

12.2. REPRESENTATIONS AND WARRANTIES OF NOVARTIS. Novartis represents and warrants to Hybridon that this License Agreement has been duly executed and delivered by Novartis and constitutes the valid and binding obligation of Novartis, enforceable against

Novartis in accordance with its terms except as enforceability may be limited by fraudulent conveyance, insolvency, bankruptcy, reorganization, moratorium and other laws relating to or affecting creditors' rights generally and by general equitable principles. The execution, delivery and performance of this License Agreement have been duly authorized by all necessary action on the part of Novartis, its officers and directors. No provision of this License Agreement violates any other agreement that Novartis may have with any other person or company, and Novartis acknowledges that Hybridon has relied on that representation in entering into this License Agreement.

12.3. CERTIFICATE OF HYBRIDON. Within thirty (30) days of the Effective Date, Hybridon shall deliver to Novartis a certificate or certificates, dated as of the Effective Date, of the President of Hybridon certifying on behalf of Hybridon that the representations and warranties of Hybridon set forth in this License Agreement are true and correct on and as of the Effective Date. In the event that the representations and warranties of Hybridon set forth in this License Agreement are no longer true and correct on and as of the Effective Date, without exception, Hybridon shall deliver to Novartis such certificate(s) along with a detailed schedule of exceptions to such representations and warranties (the "Schedule of Exceptions"). Upon delivery by Hybridon of certificate(s) together with a Schedule of Exceptions (but not upon delivery of certificate(s) not accompanied by a Schedule of Exceptions), Novartis, in its sole discretion, shall either (i) withdraw its exercise of the Commercialization Option, in which case this License Agreement shall be deemed not to have taken effect, such Commercialization Option shall remain in full force and effect, and Novartis shall retain the right to exercise such Commercialization Option at a later time during the Option Term or (ii) accept the certificate as modified by the Schedule of Exceptions, in which case this License Agreement shall remain effective, the Schedule of Exceptions shall be incorporated herein as Schedule 12.3, and the option exercise fee set forth in Section 5.1 hereof shall become payable by Novartis upon receipt of Invoice; provided that, (x) if Novartis does not notify Hybridon that Novartis has elected to withdraw its exercise of the Commericalization Option within sixty (60) days after Novartis receives such certificate(s) together with a Schedule of Exceptions, Novartis shall be deemed to have accepted the certificate(s) in accordance with the foregoing clause (ii) and (y) if Hybridon delivers such certificate(s) together with a Schedule of Exceptions, then Hybridon shall not Invoice Novartis for the option exercise fee unless and until such certificate(s) have been

accepted (or deemed to have been accepted) by Novartis. Acceptance by Novartis of a certificate modified by the Schedule of Exceptions shall in no way be deemed to modify or otherwise limit Novartis' rights or possible remedies under the Collaboration Agreement.

12.4. LIMITATIONS.

12.4.1. NO OTHER WARRANTIES. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, ALL IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED.

12.4.2. CONSEQUENTIAL AND PUNITIVE DAMAGES. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY WILL BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, MULTIPLE, SPECIAL OR PUNITIVE DAMAGES OF ANY NATURE ARISING FROM SUCH PARTY'S ACTIVITIES UNDER THIS AGREEMENT; PROVIDED, HOWEVER, THAT THIS LIMITATION SHALL NOT LIMIT THE INDEMNIFICATION OBLIGATIONS OF THE PARTIES WITH RESPECT TO THIRD PARTY CLAIMS OR THE OBLIGATIONS OF EITHER PARTY WITH RESPECT TO A BREACH OF ARTICLE II OR ARTICLE VII.

ARTICLE XIII

INDEMNIFICATION

13.1. INDEMNIFICATION BY HYBRIDON. Hybridon will indemnify, defend, and hold Novartis and its Affiliates, their respective employees, shareholders, officers, directors, agents and consultants, and the successors, heirs and assigns of each of them, harmless against any loss, damages, action, suit, claim, demand, liability, expense, bodily injury, death or property damage, including reasonable attorney fees (a "Loss") that may arise from Third Party claims brought, instituted or arising against such persons to the extent such Loss is based on or arises out of the breach by Hybridon of any of its covenants, representations or warranties set forth in this License Agreement, but excluding any such Loss that is caused by the negligent, willful or reckless acts or omissions of Novartis.

13.2. INDEMNIFICATION BY NOVARTIS. Novartis will indemnify, defend, and hold Hybridon, and its Affiliates, and their respective employees, shareholders, officers, directors, agents and consultants, and the successors, heirs, and assigns of each of them, harmless against any Loss that may arise from Third Party claims brought, instituted or arising against such persons to the extent such Loss is based on or arises out of (a) the breach by Novartis of any of its covenants, representations or warranties set forth in this License Agreement, (b) the development, manufacture, use, storage or handling of a Licensed IMO by Novartis or its Affiliates or their representatives, agents, licensees, sublicensees or subcontractors under this License Agreement, or any actual or alleged violation of law resulting therefrom, including without limitation any death or bodily injury caused or allegedly caused by the use of the Licensed IMO or (c) any actual or alleged infringement of any patent rights, trademarks or other intellectual property rights, or misappropriation of trade secrets, in connection with the making, having made, using, having used, developing, having developed, commercializing, having commercialized, manufacturing, having manufactured, promoting, having promoted, selling, having sold, distributing, having distributed, marketing, having marketed, importing, having imported, exporting or having exported of any Licensed IMO or Product, but excluding any such Loss that is caused by the negligent, willful or reckless acts or omissions of Hybridon.

13.3. CLAIMS PROCEDURES. Each Person entitled to be indemnified by a Party (an "Indemnified Person") pursuant to Sections 13.1 or 13.2 hereof shall give notice to the other Party (an "Indemnifying Party") promptly after such Indemnified Person has actual knowledge of any threatened or asserted claim as to which indemnity may be sought, and shall permit the Indemnifying Party to assume the sole control of the defense of any such claim or any litigation

resulting therefrom; provided, however:

(a) that counsel for the Indemnifying Party, who shall conduct the defense of such claim or any litigation resulting therefrom, shall be approved by the Indemnified Person (whose approval shall not unreasonably be withheld) and the Indemnified Person may participate in such defense at such Party's expense (unless: (i) the employment of counsel by such Indemnified Person has been authorized by the Indemnifying Party; or (ii) the Indemnified Person shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Person in the defense of such action, in each of which cases the Indemnifying

Party shall pay the reasonable fees and expenses of one law firm serving as counsel for all Indemnified Persons with respect to such action, which law firm shall be subject to approval, not to be unreasonably withheld, by the Indemnifying Party);

(b) the failure of any Indemnified Person to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this License Agreement to the extent that the failure to give notice did not result in harm to the Indemnifying Party or materially compromise the defense of such claim;

(c) no Indemnifying Party, in the defense of any such claim or litigation, shall consent to entry of any judgment or enter into any settlement, except with the approval of each Indemnified Person (which approval shall not be unreasonably withheld), except a settlement which imposes only a monetary obligation on the Indemnifying Party and which includes as an unconditional term thereof the giving of a release from all liability in respect to such claim or litigation by the claimant or plaintiff to the Indemnified Person;

(d) each Indemnified Person shall furnish such information or reasonable assistance regarding itself or the claim in question as an Indemnifying Party may reasonably request in writing and shall be reasonably required in connection with the defense of such claim and litigation resulting therefrom; and

(e) no Indemnified Person shall settle or agree to a judgment with respect to such claim or litigation without the consent of the Indemnifying Party (which consent shall not be unreasonably withheld).

13.4. SURVIVAL. The provisions of this Article XIII shall survive expiration or termination of this Agreement without limitation.

ARTICLE XIV

MISCELLANEOUS PROVISIONS

14.1. INVOICE REQUIREMENT. Except as otherwise set forth in Section 6.1, any amounts payable to Hybridon hereunder shall be made within sixty (60) calendar days after receipt by Novartis or its designated nominee of an invoice covering such payment. With respect

to invoices for milestone payments, Hybridon shall send such invoices following written notice by Novartis that the particular milestone(s) to which such invoice pertains has been met.

14.2. GOVERNING LAW, AND JURISDICTION. This License Agreement shall be governed and construed in accordance with the internal laws of the State of New York, United States. Both Parties agree to submit to personal jurisdiction in the State of New York and to accept and agree to venue in the State of New York.

14.3. ARBITRATION WITH RESPECT TO CERTAIN MATTERS. Any controversy or claim as to whether this License Agreement may be terminated by a Party pursuant to Section 10.3 (any such controversy or claim being referred to in this Section

14.3 as a "Section 10.3 dispute") shall be resolved through arbitration as follows:

14.3.1. Notice; Selection of Arbitrators. A Party may submit such Section 10.3 dispute to arbitration by notifying the other Party, in writing, of such Section 10.3 dispute. The Party submitting such notice shall include therein a reasonably detailed summary of the basis for such Section 10.3 dispute. The Parties agree that any such Section 10.3 dispute shall be submitted to three (3) arbitrators selected from the panel of arbitrators of the American Arbitration Association ("AAA"). Within twenty (20) days after receipt of notice pursuant to this Section 14.3.1, each Party shall designate in writing a single arbitrator. Within ten (10) business days after the designation of the arbitrators, the arbitrators chosen by the Parties shall choose a third arbitrator (collectively, the "Arbitrators"). In selecting the third arbitrator, preference shall be given to a lawyer or former judge knowledgeable and experienced in the law concerning the subject matter of the Section 10.3 dispute, and shall not be an Affiliate, employee, consultant, officer, director or stockholder of either Party. The Parties shall obtain the agreement of the Arbitrators to provide a written ruling, stating in separate sections the findings of fact and conclusions of law on which their ruling is based. The Parties will obtain the agreement of the Arbitrators to the terms of this Section 14.3.

14.3.2. Initial Meeting. Within ten (10) days after the designation of the Arbitrators, the Arbitrators and the Parties shall meet, at which time the Parties shall be required to set forth in writing all disputed issues and a proposed ruling on the merits of each such issue.

14.3.3. Hearing. The Arbitrators shall set a date for a hearing, which shall be no later than twenty (20) days after the submission of written proposals pursuant to Section 14.3.2, to discuss each of the issues identified by the Parties. The Parties shall have the right to be represented by counsel. Except as provided herein, the arbitration shall be governed by the Commercial Arbitration Rules of the AAA, as amended and in effect on the date a demand for arbitration is filed; provided, however, that the United States Federal Rules of Evidence shall apply with regard to the admissibility of evidence.

14.3.4. Ruling. The Arbitrators shall use their best efforts to rule on the Section 10.3 dispute within twenty (20) days after the completion of the hearing described in Section 14.3.3. Subject to any rights to appeal provided for by statute, the determination of the Arbitrators as to the resolution of any Section 10.3 dispute shall be binding and conclusive upon both Parties. All rulings of the Arbitrators shall be in writing, specifying the basis in law and in fact of the ruling, and shall be delivered to the Parties.

14.3.5. Costs and Expenses. Each Party shall bear its own costs and expenses incurred in connection with any arbitration pursuant to this Section 14.3.

14.3.6. Location of Arbitration. Any arbitration pursuant to this Section 14.3 shall be conducted in New York, New York. Any arbitration award may be entered in and enforced by a court in accordance with Section 14.2, subject to each Party's rights to appeal as provided for by statute.

14.3.7. No Limitation. Nothing in this Section 14.3 shall be construed as limiting in any way the right of a Party to bring an action in aid of arbitration in a court in accordance with Section 14.2.

14.4. SAFETY ISSUES OR SIGNALS. During the term of this License Agreement, the Parties will promptly report to appropriate authorities in accordance with applicable law any safety issue or signal, directly or indirectly attributable to such Party's use or application of any immunomodulatory oligonucleotide and shall share any such report with the other Party. Each Party shall be entitled to use and disclose all such reports or other information to regulatory authorities as required under applicable law or regulation and to licensees, sublicensees and collaborators under obligations of confidentiality for purposes relating to the research,

development and/or commercialization of products incorporating immunomodulatory oligonucleotides.

14.5. WAIVER. No provision of this License Agreement may be waived except in writing by both Parties. No failure or delay by either Party in exercising any right or remedy hereunder or under applicable law will operate as a waiver thereof, or a waiver of any right or remedy on any subsequent occasion.

14.6. FORCE MAJEURE. Neither Party will be in breach hereof by reason of its delay in the performance of or failure to perform any of its obligations hereunder, if that delay or failure is caused by strikes, acts of God or the public enemy, riots, war, terrorism, incendiaries, interference by civil or military authorities, compliance with governmental priorities for materials, or any fault beyond its control or without its fault or negligence.

14.7. SEVERABILITY. Should one or more provisions of this License Agreement be or become invalid, then the Parties shall attempt in good faith to agree upon valid provisions in substitution for the invalid provisions, which in their economic effect and other substance come so close to the invalid provisions that it can be reasonably assumed that the Parties would have accepted this License Agreement with those new provisions. If the Parties are unable to agree on such valid provisions, the invalidity of such one or more provisions of this License Agreement shall nevertheless not affect the validity of the License Agreement as a whole, unless the invalid provisions are of such essential importance for this License Agreement that it may be reasonably presumed that the Parties would not have entered into this License Agreement without the invalid provisions.

14.8. GOVERNMENT ACTS. In the event that any act, regulation, directive, or law of a country or its government, including its departments, agencies or courts, should make impossible or prohibit, restrain, modify or limit any material act or obligation of the Parties under this License Agreement, the Party, if any, not so affected, shall have the right, at its option, to suspend or terminate this License Agreement as to such country, if good faith negotiations between the Parties to make such modifications herein as may be necessary to fairly address the impact thereof, are not successful after a reasonable period of time in producing mutually acceptable modifications to this License Agreement.

14.9. GOVERNMENT APPROVALS. Each Party will obtain any government approval required to enable this License Agreement to become effective, or to enable any payment hereunder to be made, or any other obligation hereunder to be observed or performed. Each Party shall keep the other informed of progress in obtaining any such government approval, and will cooperate with the other Party in any such efforts.

14.10. EXPORT CONTROLS. This License Agreement is made subject to any restrictions concerning the export of a Licensed IMO, Product, Hybridon Intellectual Property, Hybridon Background Intellectual Property, or Joint Intellectual Property from the United States that may be imposed upon or related to either Party from time to time by the Government of the United States. Furthermore, each Party agrees that it will not export, directly or indirectly, any Hybridon Intellectual Property, Hybridon Background Intellectual Property, Joint Intellectual Property or a Licensed IMO or Product utilizing the same to any countries for which the United States government or any agency thereof at the time of export requires an export license or other governmental approval, without first obtaining the written consent to do so (of which Novartis will promptly inform Hybridon) from the Department of Commerce or other agency of the United States government when required by applicable statute or regulation.

14.11. ASSIGNMENT. This License Agreement may not be assigned or otherwise transferred by either Party without the prior written consent of the other Party; provided, however, that either Party may assign this License Agreement, without the consent of the other Party: (a) to any of its Affiliates, if the assigning Party guarantees to full performance of its Affiliates' obligations hereunder; or (b) in connection with the transfer or sale of all or substantially all of its assets or business to which this License Agreement

pertains, or a controlling equity interest, or in the event of its merger or consolidation with another company. Any purported assignment in contravention of this Section 14.11 shall, at the option of the nonassigning Party, be null and void and of no effect. No assignment shall release either Party from responsibility for the performance of any accrued obligation of such Party hereunder. This License Agreement shall be binding upon and enforceable against the successor to or any permitted assignees of either of the Parties.

14.12. COUNTERPARTS. This License Agreement may be executed in counterparts, each of which shall be deemed to be original and both of which shall constitute one and the same

License Agreement.

14.13. NO AGENCY. Nothing in this License Agreement shall be deemed to create an agency, joint venture, amalgamation, partnership or similar relationship between Hybridon and Novartis and/or their respective Affiliates. Notwithstanding any of the other provisions of this License Agreement, neither Party shall at any time enter into, incur, or hold itself out to Third Parties as having authority to enter into or incur, on behalf of the other Party, any commitment, expense, or liability whatsoever, and all contracts, expenses and liabilities in connection with or relating to the obligations of each Party under this License Agreement shall be made, paid, and undertaken exclusively by such Party on its own behalf and not as an agent or representative of the other.

14.14. NOTICE. All communications between the Parties with respect to any of the provisions of this License Agreement will be sent to the addresses set out below, or to such other addresses as may be designated by one Party to the other by notice pursuant hereto, by (i) personal delivery (which shall be deemed received when delivered), (ii) reputable international express courier (which shall be deemed received when delivered), (iii) prepaid, certified mail (which shall be deemed received by the other party on the seventh (7th) business day following deposit in the mails), or (iv) facsimile transmission, or other electronic means of communication (which shall be deemed received when transmitted), with confirmation in the case of clause (iv) prepaid certified mail, given by the close of business on or before the next following business day:

if to Novartis, at:

Novartis International Pharmaceutical Ltd.
Hurst Holme
12 Trott Road
P.O. Box 2899
Hamilton, HM LX
Bermuda
Attention: Emil Bock
Fax: (441) 296-5083

with a copy to:

Novartis Institutes for BioMedical Research, Inc.
400 Technology Square
Cambridge, Massachusetts 02139
Attention: Robert L. Thompson, Vice President and General Counsel
Fax: [**]

and:

Novartis Pharma AG
Lichtstrasse 35
CH-4056 Basel
Switzerland
Attn.: General Counsel
Fax: [**]

if to Hybridon, at:

Hybridon, Inc.
345 Vassar Street
Cambridge, Massachusetts 02139
Attention: President
Fax: +(617) 679-5542

with a copy to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
USA
Attention: David E. Redlick, Esq.
Fax: +(617) 526-5000

14.15. HEADINGS. The paragraph headings are for convenience only and will not be deemed to affect in any way the language of the provisions to which they refer.

14.16. AUTHORITY. The undersigned represent that they are authorized to sign this License Agreement on behalf of their respective Party. The Parties each represent that no provision of this License Agreement will violate any other agreement that such Party may have with any other person or company. Each Party has relied on that representation in entering into this License Agreement.

14.17. ENTIRE AGREEMENT. This License Agreement and the Collaboration Agreement contain the entire understanding of the Parties relating to the matters referred to herein and therein, supersede all prior agreements between the Parties with respect to such matters (including without limitation the Confidential Term Sheet dated January 26, 2005, the Material Transfer Agreement dated July 1, 2003, as amended prior to the Effective Date, and the Mutual Confidentiality Agreements dated January 23, 2003 and June 8, 2004, each as amended prior to the Effective Date, but excluding provisions of such Material Transfer Agreement and Mutual Confidentiality Agreements, relating to restrictions on the use and disclosure of materials and information prior to the Effective Date (it being understood that any material and information transferred or disclosed between the Parties prior to the Effective Date relating to the matters referred to in this License Agreement and the Collaboration Agreement will, after the Effective Date, be deemed to have been transferred or disclosed under, and will be subject to the restrictions on use and disclosure set forth in, this License Agreement and the Collaboration Agreement)), and may only be amended by a written document, duly executed on behalf of the respective Parties.

[Signature page follows]

HYBRIDON, INC.

By: /s/ Sudhir Agrawal

Name: Sudhir Agrawal

Title: CEO/President

NOVARTIS INTERNATIONAL PHARMACEUTICAL LTD.

By: /s/ Emil Bock

Name: Emil Bock

Title: Member of the Board of Directors.

By: /s/ Michael Jones

Name: Michael Jones

Title: Member of the Board of Directors

EXHIBIT A

SAMPLE INVOICE

HYBRIDON'S LOGO

INVOICE

INVOICE DATE:
[MONTH][DAY] 200X

Street
Town, Country
Phone and Fax Nr.

INVOICE NO.:XXXX

BILL TO:
Novartis International Pharmaceutical Ltd.
"Hurst Holme", 12 Trott Road
Att. Mr. Emil Bock
P.O. Box HM 2899
Hamilton, HM LX
Bermuda

FOR:
Product X Royalties 1st Quarter 2004
(or Milestone for event Y)

DESCRIPTION	AMOUNT (USD)
Product X royalties January - March 2004 calculated based on Novartis provided sales report (see attached worksheet)	US$ 000'000.00
(Or milestone payment for event Y, according to paragraph XY of agreement ZZZZ dated .....)	
Novartis Contract Code	
Please specify the event for which the invoice is due, and add any copies of invoices from third parties in case reimbursement for third party work is agreed to	
PLEASE REMIT BY WIRE TRANSFER WITHIN 60 DAYS TO:	
Receiving Bank - Swift Code - ABA Number - Credit Account - Beneficiary -	
TOTAL	000'000,00

If you have any questions concerning this invoice, contact .....
or e-mail to .....

VAT -Reg. No. Xxxxxxxxx (if partner has one)

BEST REGARDS,

SCHEDULE 1.29
HYBRIDON PATENTS

[TO BE APPENDED UPON EXERCISE OF THE COMMERCIALIZATION OPTION]

SCHEDULE 1.39
JOINT PATENTS

[TO BE APPENDED UPON EXERCISE OF THE COMMERCIALIZATION OPTION]

Exhibit 10.6

HYBRIDON, INC.
345 Vassar Street
Cambridge, Massachusetts 02139

May 20, 2005

Pillar Investments Limited
St. James' Chambers
Douglas
Isle of Man

Gentlemen:

This letter sets forth the terms and conditions of the engagement of Pillar Investments Limited (the "Advisor") as a non-exclusive financial advisor to Hybridon, Inc. (the "Company") in connection with the arrangement and negotiation of a private placement of the Company's convertible subordinated notes outside of the United States (the "Transaction"). The Advisor, in its capacity as financial advisor to the Company, has identified and will identify potential non-U.S. investors and, subject to the Company's prior written approval, has contacted or will contact such potential investors on behalf of the Company and has provided and will provide such other services in connection with the Transaction as the Company may from time to time reasonably request.

The Advisor has not contacted or initiated and shall not contact or initiate any discussions with any party or prospective investor without first identifying such party or prospective investor to the Company and obtaining the Company's prior written approval to make such contact or initiate such discussions (such parties and prospective investors that are approved by the Company are referred to herein as the "Approved Investors"). The Advisor shall not have authority under this letter to bind the Company in any way to any party, and nothing contained in this letter shall require the Company to accept the terms of any proposal or undertake any other action that would result in the receipt by the Advisor of a fee hereunder.

The Advisor represents, warrants and covenants to the Company that:

(a) It has not offered, offered to sell or sold and shall not offer, offer to sell or sell any securities of the Company on the basis of any written communications or documents relating to the Company or its business other than written materials furnished by the Company or previously approved by the Company in writing, including without limitation the Company's filings under the Securities Exchange Act of 1934, as amended (the "Offering Materials"). No communications (whether oral or written) or documents relating to the Company or its business made or delivered by the Advisor have been or shall be inconsistent with the Offering Materials.

(b) It has not offered, offered to sell or sold and shall not offer, offer to sell or sell any securities of the Company to any investor in the United States or to any United States person outside the United States.

(c) It has not engaged and shall not engage in any form of general solicitation or general advertising which is prohibited by Regulation D ("Regulation D") promulgated under the Securities Act of 1933, as amended (the "Securities Act"), in connection with the Transaction or any directed selling efforts in the United States (as such term is defined in Regulation S ("Regulation S") promulgated under the Securities Act). In addition, such Advisor has not taken and shall not take any action that might reasonably be expected to jeopardize the availability for the Transaction of the exemption from registration provided by Regulation S or the qualification of securities of the Company for offer and sale under any applicable foreign securities laws.

(d) It shall make reasonable inquiry to determine that each investor is acquiring the securities of the Company for his or its own account for investment.

(e) In the performance of its services hereunder, it has complied and shall comply with the U.S. securities laws and the securities laws in effect in any jurisdiction in which securities of the Company are offered by it and the rules, regulations and orders of any securities administrator existing or adopted thereunder.

(f) It shall not receive, directly or indirectly, any remuneration in respect of any issuance and sale by the Company of its securities in the United States or to any U.S. person.

In the event a Transaction with Approved Investors is completed during the term of this letter, the Company will (i) pay the Advisor a fee in an amount equal to 5.25% of the Aggregate Value (as defined below) of the Transaction received from Approved Investors and (ii) issue to the Advisor a five-year warrant or warrants (in a form containing antidilution protection for stock splits and other similar events and other customary provisions as agreed by the Company and the Advisor) to purchase such number of shares of common stock of the Company (the "Warrant Shares") as is equal to 10% of the Issued Shares (as defined below) at an exercise price per share equal to the conversion price of the convertible subordinated notes issued to Approved Investors in the Transaction.

For the purposes of this letter, (i) the term "Aggregate Value" shall mean the total amount of cash and the fair market value of all other property paid by Approved Investors to the Company in consideration for the convertible subordinated notes of the Company to be issued in the Transaction, and (ii) the term "Issued Shares" shall mean the total number of shares of common stock of the Company issuable, as of the closing, upon conversion of the convertible subordinated notes of the Company issued to the Approved Investors, which Approved Investors were introduced to the Company by the Advisor, in the Transaction.

The Advisor recognizes that the Company is subject to the rules of the American Stock Exchange, including Section 711 of the American Stock Exchange Company Guide. Accordingly, the Advisor agrees that notwithstanding the foregoing the Company shall have no obligation hereunder to pay any fees or issue any Warrants to the Advisor that would not comply with the rules of the American Stock Exchange or that would require the Company to obtain stockholder approval. In the event of such a conflict, the Company and the Advisor agree to negotiate in good faith new compensation terms for the Advisor.

In addition to any fees payable to the Advisor under the terms of this letter, the Company agrees to reimburse the Advisor for its reasonable out-of-pocket expenses incurred in connection with the Advisor's activities under this letter, which shall not exceed $35,000, in the aggregate, without the Company's prior approval.

The Company agrees to indemnify the Advisor and its affiliates, directors, officers, employees, agents and controlling persons (each such person being an "Indemnified Party") from and against any and all losses, claims, damages and liabilities, joint or several, to which such Indemnified Party may become subject under any applicable federal or state law, or otherwise, related to or arising out of the engagement of the Advisor pursuant to, and the performance by the Advisor of the services contemplated by, this letter and will, subject to the limitation set forth below, reimburse any Indemnified Party for all expenses (including reasonable counsel fees and expenses, whether incurred in connection with third party claims or direct claims against the Company) as they are incurred in connection with the investigation of, preparation for or defense of any pending or threatened claim or any action or proceeding arising therefrom, whether or not such Indemnified Party is a party. The Company will not be liable under the foregoing indemnification provision to the extent that any loss, claim, damage, liability or expense is found in a final judgment by a court of competent jurisdiction to have resulted from an Indemnified Party's breach of this letter, bad faith, willful misfeasance, gross negligence or reckless disregard of its obligations or duties. No Indemnified Party shall settle any claim for which indemnification may be sought by him or it hereunder without the prior written consent of the Company. The Company's

obligations to indemnify pursuant hereto shall be limited to the Indemnified Party's actual liabilities, losses, damages or expenses incurred and shall not include any consequential damages or damages for loss of business or reputation.

The Company will have the right, at its option, to assume the defense of any litigation or proceeding in respect of which indemnity may be sought hereunder, including the employment of counsel reasonably satisfactory to the Advisor (the Advisor hereby agrees that Wilmer Cutler Pickering Hale and Dorr LLP is satisfactory to the Advisor) and the payment of the fees and expenses of such counsel, in which event, except as provided below, the Company shall not be liable for the fees and expenses of any other counsel retained by any Indemnified Person in connection with such litigation or proceeding. In any such litigation or proceeding the defense of which the Company shall have so assumed, any Indemnified Person shall have the right to participate in such litigation or proceeding and to retain its own counsel.

Upon receipt by an Indemnified Person of actual notice of a claim, action or proceeding against such Indemnified Person in respect of which indemnity may be sought hereunder, such Indemnified Person shall promptly notify the Company with respect thereto. In addition, an Indemnified Person shall promptly notify the Company after any action is commenced (by the way of service with a summons or other legal process giving information as to the nature and basis of the claim) against such Indemnified Person in respect of which indemnity may be sought hereunder. In any event, failure to notify the Company shall not relieve the Company from any liability which the Company may have on account of this indemnity or otherwise, except to the extent the Company shall have been prejudiced by such failure.

In the course of its services, the Advisor has had and will have access to Confidential Information (as defined below) concerning the Company. The Advisor agrees that all Confidential Information has been and will be treated by the Advisor as confidential in all respects. The term "Confidential Information" shall mean all information, whether written or oral, which is disclosed by the Company or its affiliates, agents or representatives to the Advisor or is otherwise learned of by the Advisor in connection with its role as financial advisor to the Company which information is not in the public domain, but shall not include: (i) information which, prior to disclosure to the Advisor, was already in the Advisor's possession and was not otherwise subject to an obligation of confidentiality; (ii) information which is publicly disclosed other than by the Advisor in violation of this letter; (iii) information which is obtained by the Advisor from a third party that (x) the Advisor does not know to have violated, or to have obtained such information in violation of, any obligation to the Company or its affiliates with respect to such information, and (y) does not require the Advisor to refrain from disclosing such information; and (iv) information which is required to be disclosed by the Advisor or its outside counsel under compulsion of law (whether by oral question, interrogatory, subpoena, civil investigative demand or otherwise) or by order of any court or governmental or regulatory body to whose supervisory authority the Advisor is subject; provided that, in such circumstance, the Advisor will give the Company prior written notice of such disclosure and cooperate with the Company to minimize the scope of any such disclosure. Each Advisor's obligation under this paragraph shall survive the expiration, termination or completion of this letter or the Advisor's engagement hereunder.

The Advisor's engagement hereunder and this letter shall terminate on the earlier of (i) May 30, 2005 or (ii) written notice of termination by the Company to the Advisor or by the Advisor to the Company, it being understood that the provisions relating to confidentiality and indemnification will survive any such termination.

This letter shall be construed and interpreted in accordance with the laws of the Commonwealth of Massachusetts. This letter constitutes the entire agreement of the parties with respect to the subject matter hereof.

If the foregoing is in accordance with your understanding, please confirm acceptance by signing and returning to us the duplicate of this letter attached herewith.

Sincerely,

HYBRIDON, INC.

By: /s/ R. Andersen

Name: R.G. Andersen
Title: CFO

AGREED AND ACCEPTED AS OF
THE DATE SET FORTH ABOVE BY:

PILLAR INVESTMENTS LIMITED

By: /s/ Youssef El Zein

Title: Director

Exhibit 10.7

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HYBRIDON, INC.

4% CONVERTIBLE SUBORDINATED NOTES DUE 2008

NOTEHOLDERS AGREEMENT

Dated as of May 20, 2005

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NOTEHOLDERS AGREEMENT (this "Agreement"), dated as of May 20, 2005, among Hybridon, Inc., a Delaware corporation (the "Company"), and the holders of the Company's 4% Convertible Subordinated Notes due 2008 as set forth on the list of Holders attached to this Agreement (such notes, the "Notes" and such holders, the "Holders").

It is agreed as follows:

ARTICLE 1
DEFINITIONS

SECTION 1.1. DEFINITIONS.

"Affiliate" means, with respect to any specified person, any other person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified person. For the purposes of this definition, "control", when used with respect to any person, means the power to direct the management and policies of such person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Applicable Conversion Rate" means, at the time any determination thereof is to be made, the Initial Conversion Rate as adjusted pursuant to Section 4.6, and "Applicable Conversion Price" means $1,000 divided by the Applicable Conversion Rate.

"Board of Directors" means either the board of directors of the Company or any committee of the Board of Directors authorized to act for it with respect to this Agreement.

"Business Day" shall have the same meaning as Trading Day.

"Capital Stock" means (a) in the case of a corporation, corporate stock, (b) in the case of an association or business entity, shares, interests, participations, rights or other equivalents (however designated) of corporate stock, (c) in the case of a partnership or limited liability company, partnership or membership interests (whether general or limited) and (d) any other interest or participation that confers on a person the right to receive a share of the profits and losses of, or distribution of the assets of, the issuing person.

"cash" means such coin or currency of the United States as at any time of payment is legal tender for the payment of public and private debts.

"Closing Price" of the Common Stock on any date means the last reported sales price or, in case no such reported sale takes place on such date, the average of the reported closing bid and ask prices on the principal trading market for the Common Stock. If no such prices are available, the current market price per share shall be the fair value of a share of Common Stock as determined in good faith by the Board of Directors.

"Common Stock" means the common stock of the Company as it exists on the date of this Agreement, and any shares of any class or classes of capital stock of the Company resulting from any reclassification or reclassifications thereof and which have no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation,

dissolution or winding-up of the Company and which are not subject to redemption by the Company; provided, however, that if at any time there shall be more than one such resulting class, the shares of each such class then so issuable on

conversion of Notes shall be substantially in the proportion which the total number of shares of such class resulting from all such reclassifications bears to the total number of shares of all such classes resulting from all such reclassifications.

"Company" means the party named as such in the first paragraph of this Agreement until a successor replaces it pursuant to the applicable provisions of this Agreement, and thereafter "Company" shall mean such successor Company.

"Default" or "default" means, when used with respect to the Notes, any event which is or, after notice or passage of time or both, would be an Event of Default.

"Exchange Act" means the United States Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder, as in effect from time to time.

"Final Maturity Date" means April 30, 2008.

"Fundamental Change" means the occurrence of any of the following at a time after the Notes are originally issued:

(a) the Common Stock (or other common stock into which the Notes are convertible) is neither listed for trading on a United States national securities exchange nor approved for listing on the Nasdaq National Market or the Nasdaq SmallCap Market or another established over-the-counter trading market in the United States; or

(b) any Person acquires beneficial ownership, directly or indirectly, through a purchase, merger or other acquisition transaction or series of transactions, of shares of the Company's Capital Stock entitling the Person to exercise a majority of the total voting power of all shares of the Company's Capital Stock entitled to vote generally in elections of directors, other than an acquisition by the Company, any of its Subsidiaries or any of its employee benefit plans; or

(c) the Company merges or consolidates with or into any other Person (other than a Subsidiary of the Company), another Person merges with or into the Company, or the Company conveys, sells, transfers or leases all or substantially all of its assets to another Person, other than any transaction:

(i) that does not result in a reclassification, conversion, exchange or cancellation of any outstanding Common Stock;

(ii) pursuant to which the holders of Common Stock immediately prior to the transaction have the entitlement to exercise, directly or indirectly, a majority of the total voting power of all shares of the Capital Stock entitled to vote generally in the election of directors of the continuing or surviving corporation immediately after the transaction; or

(iii) that is effected solely to change the Company's jurisdiction of incorporation and results in a reclassification, conversion or exchange of outstanding shares of Common Stock solely into shares of common stock of the surviving entity.

For purposes of this definition, whether a Person is a "beneficial owner" will be determined in accordance with Rule 13d-3 under the Exchange Act, and "Person" includes any syndicate or group that would be deemed to be a "person" under Section 13(d)(3) of the Exchange Act.

"Holder" or "Noteholder" means the person in whose name a Note is registered on the books of the Company.

"Initial Conversion Rate" means 1123.5955 shares of Common Stock per $1,000 principal amount of Notes.

"Person" or "person" means any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization, government or any agency or political subdivision thereof or any other entity.

"Principal" or "principal" of a debt security, including the Notes, means the stated principal amount of, the premium on, such debt security.

"Registration Rights Agreement" means the Registration Rights Agreement, dated as of the date hereof, among the Company, the initial Noteholders and the placement agent.

"SEC" means the United States Securities and Exchange Commission.

"Notes" means the 4% Convertible Subordinated Notes due April 30, 2008 or any of them (each, a "Note"), as amended or supplemented from time to time that are issued under this Agreement.

"SEC" means the United States Securities and Exchange Commission.

"Securities Act" means the United States Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder, as in effect from time to time.

"Senior Indebtedness" means the principal of, premium (if any) and interest on, the Company's indebtedness for borrowed money (or guarantees thereof), except such indebtedness as is by its terms expressly stated not to be superior in right of payment to the Notes or to rank pari passu with the Notes.

"Significant Subsidiary" means, in respect of any Person, a Subsidiary of such Person that would constitute a "significant subsidiary", as such term is defined under Rule 1-02 of the SEC's Regulation S-X.

"Subsidiary" means, in respect of any Person, any corporation, association, partnership or other business entity of which more than 50% of the total voting power of shares of Capital Stock or other interests (including partnership interests) entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers, general partners or

trustees thereof is at the time owned or controlled, directly or indirectly, by (i) such Person; (ii) such Person and one or more Subsidiaries of such Person; or (iii) one or more Subsidiaries of such Person.

"Trading Day" means, with respect to any security, each Monday, Tuesday, Wednesday, Thursday and Friday, other than any day on which securities are not generally traded on the principal exchange or market in which such security is traded.

ARTICLE 2
THE NOTES

SECTION 2.1. FORM AND DATING.

The Notes shall be issued solely in registered form substantially as set forth in Exhibit A, which exhibit is incorporated in and made part of this Agreement. Each Note shall be dated as of such date as will not result in the loss of any interest. The Notes are being offered and sold by the Company pursuant to one or more Subscription Agreements dated the date hereof (the "Subscription Agreements") between the Company and the initial Holders, in transactions exempt from, or not subject to, the registration requirements of the Securities Act.

SECTION 2.2. TRANSFER.

Subject to compliance with any applicable additional requirements contained in Section 2.5 of this Agreement, in the Subscription Agreements and applicable law, when a Note is presented to the Company with a request to register a transfer thereof, the Company shall register the transfer as requested; provided, however, that every Note presented or surrendered for registration of transfer shall be duly endorsed or accompanied by an assignment form in the form included as part of the Note on Exhibit A, and, if applicable, a transfer certificate in the form included in Exhibit B, and in form satisfactory to the Company duly executed by the Holder thereof or its attorney duly authorized in writing. Any transfer shall be without charge. All Notes issued upon any such transfer shall be valid obligations of the Company, evidencing the same debt and entitled to the same benefits under this Agreement, as the Notes surrendered

upon such transfer.

SECTION 2.3. REPLACEMENT NOTES.

If any mutilated Note is surrendered to the Company or the Company receives evidence to its satisfaction of the destruction, loss or theft of any Note, and there is delivered to the Company such an indemnity agreement as will be reasonably required by it to save it harmless, then, in the absence of notice to the Company that such Note has been acquired by a bona fide purchaser, the Company shall, at its expense, execute and deliver, in exchange for any such mutilated Note or in lieu of any such destroyed, lost or stolen Note, a new Note of like tenor and principal amount. In case any Note that has matured or is about to mature, or is about to be repurchased by the Company upon a Fundamental Change, shall become mutilated, destroyed, lost or stolen, the Company may, instead of issuing a substitute Note, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated Note) if the

applicant for such payment shall furnish to the Company such Note such an indemnity agreement as will be reasonably required by it to save it harmless.

Every new Note issued pursuant to this Section 2.3 in lieu of any mutilated, destroyed, lost or stolen Note shall constitute an original additional contractual obligation of the Company, whether or not the mutilated, destroyed, lost or stolen Note shall be at any time enforceable by anyone, and shall be entitled to all benefits of this Agreement equally and proportionately with any and all other Notes duly issued hereunder. All Notes shall be held and owned upon the express condition that the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, destroyed, lost or stolen Notes and shall preclude (to the extent lawful) any and all other rights or remedies, notwithstanding any law or statute existing or hereafter enacted to the contrary with respect to he replacement or payment of negotiable instruments or other securities without their surrender.

SECTION 2.4. NOTES HELD BY THE COMPANY.

In determining whether the Holders of the required principal amount of Notes have concurred in any notice, direction, waiver or consent, Notes owned by the Company or any other obligor on the Notes or by any Affiliate of the Company or of such other obligor shall be disregarded.

SECTION 2.5. LEGEND; ADDITIONAL TRANSFER AND EXCHANGE REQUIREMENTS.

(a) If Notes are issued upon the transfer, exchange or replacement of Notes subject to restrictions on transfer and bearing the legends set forth on the form of Note attached hereto as Exhibit A (collectively, the "Legend"), or if a request is made to remove the Legend on a Note, the Notes so issued shall bear the Legend, or the Legend shall not be removed, as the case may be, unless there is delivered to the Company such satisfactory evidence, which shall include an opinion of counsel if requested by the Company, as may be reasonably required by the Company, that neither the Legend nor the restrictions on transfer set forth therein are required to ensure that transfers thereof comply with the registration provisions of the Securities Act or that such Notes are not "restricted" within the meaning of Rule 144 under the Securities Act.

(b) Subject to the succeeding paragraph, every Note shall be subject to the restrictions on transfer provided in the Legend. Whenever a Note is presented or surrendered for registration of transfer, such Note must be accompanied by a certificate in substantially the form set forth in Exhibit B, dated the date of such surrender and signed by the Holder of such Note, as to compliance with such restrictions on transfer.

(c) The restrictions imposed by the Legend upon the transferability of any Note shall cease and terminate when such Note has been sold pursuant to an effective registration statement under the Securities Act or transferred in compliance with Rule 144 (or any successor provision) or, if earlier, upon the expiration of the holding period applicable to sales thereof under Rule 144(k) under the Securities Act (or any successor provision). Any Note as to which such restrictions on transfer shall have expired in accordance with their terms or shall have terminated may, upon a surrender of such Note for exchange to the Company in accordance with the

provisions of this Section 2.5 accompanied, in the event that such restrictions on transfer have terminated by reason of a transfer in compliance with Rule 144 (or any successor provision), by, if requested, an opinion of counsel reasonably acceptable to the Company, addressed to the Company and in form acceptable to the Company, to the effect that the transfer of such Note has been made in compliance with Rule 144 (or such successor provision) and may be exchanged for a new Note of like tenor and aggregate principal amount which shall not bear the restrictive Legend.

(d) As used in the preceding two paragraphs of this Section 2.5, the term "transfer" encompasses any sale, pledge, transfer, hypothecation or other disposition of any Note.

ARTICLE 3
AUTOMATIC CONVERSION AND REPURCHASE

SECTION 3.1. AUTOMATIC CONVERSION

(a) The Company may elect to automatically convert all, but not less than all, of the Notes (an "Automatic Conversion") at any time prior to maturity if: (i) during the period ending on the first anniversary of the date of the original issuance of the Notes, the volume-weighted average of the Closing Prices of the Company's Common Stock for the 10 Trading Days in an applicable Measurement Period is more than 200% of the Conversion Price; or (ii) at any time thereafter the condition specified in clause (i) is satisfied but substituting 125% for 200%. "Measurement Period" is a period of 10 consecutive Trading Days ending within three Trading Days of the date of the giving of the Automatic Conversion Notice by the Company in accordance with the provisions of this Agreement.

(b) The Company may elect to automatically convert all, but not less than all, of the Notes (also an "Automatic Conversion") at any time prior to maturity upon the completion by the Company of a Qualified Financing. "Qualified Financing" means a sale by the Company for cash or Common Stock, other equity securities or convertible debt securities for the purpose of financing the Company's business (as opposed to sales under benefit plans, for acquisitions of another business and the like) which results in aggregate gross proceeds to the Company of at least $10,000,000;provided that the purchase price paid by the purchasers of such securities (as determined in good faith by the Board of Directors of the Company on a Common Stock-equivalent basis) is greater than or equal to the Applicable Conversion Price on the Trading Day of such sale.

(c) In case the Company be entitled to and shall desire to exercise the right to convert the Notes pursuant to Section 3.1(a), it shall fix a date for the Automatic Conversion (the "Automatic Conversion Date"), and it shall give notice of such Automatic Conversion (the "3.1(a) Conversion Notice") at least five Trading Days and not more than 10 Trading Days prior to the Automatic Conversion Date to the Holders of the Notes in accordance with the provisions of Section 9.4. If the Company shall desire to exercise its right to convert the Notes in connection with a Qualified Financing pursuant to Section 3.1(b), the Company shall give notice (the "Qualified Financing Notice"), and together with the Qualified Financing Notice, the "Automatic Conversion Notice" to the Holders of the Notes in accordance with the provisions of Section 9.4 of the securities being sold in the Qualified Financing, the price being paid by purchasers for

such securities in such Qualified Financing, the aggregate gross proceeds to the Company from such Qualified Financing and the anticipated closing date of such Qualified Financing at least 10 days before the anticipated closing date of the Qualified Financing. Upon, the Automatic Conversion Date or the closing of the Qualified Financing, as the case may be, the principal amount of the Notes will automatically convert into Common Stock at the Applicable Conversion Rate unless previously converted. The Automatic Conversion Notice if delivered in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the Holder receives such notice. In any case, any defect in such procedures with respect to a particular Holder shall not affect the validity of the proceedings for the conversion of the Notes of any other Holder. The Automatic Conversion of the Notes shall require the Company to pay to the Holders of the Notes interest accrued on the Notes to the date of the Automatic Conversion in the manner specified in subparagraph (d).

Each Automatic Conversion Notice, whether provided with respect to Automatic Conversion under Section 3.1(a) or 3.1(b), shall specify:

(1) the Automatic Conversion Date;

(2) the amount of accrued interest on each $1,000 principal amount of Notes;

(3) the Applicable Conversion Rate then in effect; and

(4) the place or places where the automatically converted Notes are to be delivered for cancellation.

(d) If the Automatic Conversion Notice has been given as above provided, on and after the Automatic Conversion Date or the closing date of the Qualified Financing, as the case may be (unless the Company shall default in its obligations with respect to the Automatic Conversion), interest on the Notes shall cease to accrue, the Notes shall automatically convert into Common Stock at the Applicable Conversion Rate, the Notes shall be deemed no longer outstanding, and the Holders shall have no right in respect of the Notes except the right to receive the shares of Common Stock issuable upon conversion of the Notes together with the cash specified in Section 4.3. All Notes surrendered for conversion shall be cancelled by the Company unless the Company shall default as aforesaid. On surrender of the Notes as specified in said Automatic Conversion Notice, the Company shall issue and shall deliver a certificate or certificates for the number of full shares of Common Stock issuable upon conversion of the Notes so converted, and shall pay accrued interest and any cash in respect of any fractional shares of Common Stock arising from such conversion as provided herein. The cash due to a Holder shall be made by wire transfer, initiated on the date such Notes are so surrendered, to an account or accounts specified by such Holder with appropriate wire instructions; if no such instructions are received, a check for the accrued interest shall be sent by recognized courier service (with no more than two-day delivery) to such Holder within two Business Days of the later of (i) the surrender of the Notes and (ii) the Automatic Conversion Date. The certificates for the shares of Common Stock issued upon surrender of the Notes shall be sent by recognized courier service (with no more than two-day delivery) to such Holder within two Business Days of the later of (i) the surrender of the Notes and (ii) the Automatic Conversion Date.

(e) Notwithstanding the failure to present and surrender the Notes as specified in the Automatic Conversion Notice, the effective date of the conversion of any Note subject to any Automatic Conversion that complies with this Section 3.1 shall be the Automatic Conversion

Date or the closing date of the Qualified Financing, as the case may be. All Holders shall be deemed to be the holders of record of the shares of Common Stock that they are entitled to receive on Automatic Conversion as of the close of business on the Automatic Conversion Date or the closing date of the Qualified Financing, as the case may be, provided, however, that the Company shall be under no obligation to deliver such certificates to a Holder until the procedures specified herein have been complied with by such Holder.

(e) If any of the foregoing provisions or other provisions of this Section 3.1 are inconsistent with applicable law at the time of such Automatic Conversion, such law shall govern.

SECTION 3.2. REPURCHASE AT OPTION OF THE HOLDER UPON A FUNDAMENTAL CHANGE.

(a) Subject to the satisfaction of the requirements of this Section 3.2, if a Fundamental Change occurs at any time prior to the Final Maturity Date, each Holder separately will, upon receipt of the notice of the occurrence of a Fundamental Change described in Section 3.2(c), have the right to require the Company to repurchase all, but not less than all, of such Holder's Notes for cash in an amount equal to 100% of the principal amount of the Notes to be repurchased plus accrued and unpaid interest, if any, to (but not including) the Fundamental Change Repurchase Date (the "Fundamental Change Repurchase Price").

(b) Notwithstanding the foregoing, Holders will not have the right to require the Company to repurchase any Notes if a Fundamental Change described in clause (b) or (c) in the definition of Fundamental Change occurs (and the Company will not be required to deliver the notice described in Section 3.2(c)), if either:

(1) the Closing Price for any five Trading Days within the period of 10 consecutive Trading Days ending immediately after the later of the effective date of the Fundamental Change or the date of the public announcement of the Fundamental Change, in the case of a Fundamental Change relating to an acquisition of Capital Stock under clause (b) of the definition of Fundamental Change, or the period of five consecutive Trading Days ending immediately before the effective date of the Fundamental Change or in the case of a Fundamental Change relating to a merger, consolidation, asset sale or otherwise under clause (c) of the definition of Fundamental Change, equals or exceeds 110% of the Applicable Conversion Rate in effect on each of those five Trading Days; or

(2) at least 95% of the consideration paid for the Common Stock (excluding cash payments for fractional shares and cash payments made pursuant to dissenters' or appraisal rights) in a merger or consolidation or a conveyance, sale, transfer or lease otherwise constituting a Fundamental Change under clause (b) and/or (c) of the definition of Fundamental Change consisting of shares of Capital Stock traded on a United States national securities exchange or quoted on the Nasdaq National Market or another established over-the-counter trading market in the United States (or will be so traded or quoted immediately following the

merger or consolidation) and as a result of the merger or consolidation the Notes become convertible into shares of such Capital Stock.

(c) Subject to Section 3.2(b), on or before the 15th day after the effective date of a Fundamental Change (which Fundamental Change results in the Holders of such Notes having the right to cause the Company to repurchase their Notes), the Company will provide to all Holders of the Notes a notice of the occurrence of the Fundamental Change and of the resulting repurchase right. Such notice shall state:

(1) the events causing the Fundamental Change;

(2) the effective date of the Fundamental Change;

(3) the last date on which a Holder may exercise its repurchase right;

(4) the Fundamental Change Repurchase Price;

(5) the Fundamental Change Repurchase Date;

(6) the Applicable Conversion Rate and any adjustments to the Applicable Conversion Rate, if and to the extent applicable;

(7) that the Notes with respect to which a Fundamental Change repurchase notice has been given by the Holder may be converted only if the Holder withdraws the Fundamental Change repurchase notice as described in clause (d) below; and

(8) the procedures that Holders must follow to require the Company to repurchase their Notes and to withdraw any repurchase notice.

(d) To exercise the repurchase right in connection with a Fundamental Change, a Holder must, before the close of business on the second Business Day immediately preceding the Fundamental Change Repurchase Date, deliver to the Company (i) the Notes to be purchased by the Company, and (ii) a duly completed Fundamental Change repurchase notice. The Fundamental Change repurchase notice must state:

(1) the certificate number or numbers of the Note or Notes being delivered for repurchase; and

(2) that the Note or Notes are to be repurchased by the Company pursuant to the applicable provisions of the Note or Notes and this Agreement.

A Holder may withdraw any Fundamental Change repurchase notice by a written

notice of withdrawal delivered to the Company prior to the close of business on the Business Day prior to the Fundamental Change Repurchase Date. The notice of withdrawal must state:

(1) the principal amount of the Note or Notes for which the repurchase notice has been withdrawn; and

(2) the certificate numbers of the withdrawn Note or Notes.

(e) The Company must repurchase the Notes for which a Fundamental Change repurchase notice has been delivered and not withdrawn no less than 20 days after the date of the Company's notice of the occurrence of the relevant Fundamental Change and no more than 60 days after the effective date of the Fundamental Change, subject to extension to comply with applicable law (the "Fundamental Change Repurchase Date"). In addition to delivering a

repurchase note that has not been withdrawn, in order to receive payment of the Fundamental Change Repurchase Price, a Holder must deliver the Notes, together with necessary endorsements, to the Company after delivery of the repurchase notice. Holders will receive payment of the Fundamental Change Repurchase Price promptly following the later of (i) the Fundamental Change Repurchase Date and (ii) the time of the delivery of the Notes. In such event on the Fundamental Change Repurchase Date:

(1) the Notes will cease to be outstanding and interest, if any, will cease to accrue (whether or not the Notes are delivered to the Company); and

(2) all other rights of the Holder will terminate (other than the right to receive the Fundamental Change Repurchase Price upon delivery or transfer of the Notes).

ARTICLE 4
CONVERSION

SECTION 4.1. CONVERSION PRIVILEGE.

Subject to the further provisions of this Article 4, a Holder of a Note may convert the principal amount of such Note (or any portion thereof equal to $1,000 or any integral multiple of $1,000 in excess thereof) into Common Stock at any time prior to the close of business on the last Business Day prior to the Final Maturity Date, at the Applicable Conversion Rate in effect on the Conversion Date; provided, however, that, if such Note is submitted or presented for purchase pursuant to Article 3, such conversion right shall terminate at the close of business on the Business Day immediately preceding the Fundamental Change Repurchase Date for such Note or such earlier date as the Holder presents such Note for purchase (unless the Company shall default in making the Fundamental Change Repurchase Price payment when due, in which case the conversion right shall terminate at the close of business on the date such default is cured and such Note is purchased). The Initial Conversion Rate is subject to adjustment as provided in this Article 4.

Provisions of this Agreement that apply to conversion of all of a Note also apply to conversion of a portion of a Note.

A Note in respect of which a Holder has delivered a notice pursuant to Section 3.2(d) exercising the option of such Holder to require the Company to purchase such Note may be converted only if such notice is withdrawn by a written notice of withdrawal delivered to the Company prior to the close of business on the Business Day immediately preceding the Fundamental Change Repurchase Date in accordance with Section 3.2(d).

A Holder of Notes is not entitled to any rights of a holder of Common Stock until such Holder has converted its Notes to Common Stock, and only to the extent such Notes are deemed to have been converted into Common Stock pursuant to this Article 4.

SECTION 4.2. CONVERSION PROCEDURE.

To convert a Note, a Holder must (a) complete and manually sign the conversion notice on the back of the Note and deliver such notice to the Company, (b) surrender the Note to the Company, (c) furnish appropriate endorsements and transfer documents if required by the Company, and (d) pay any transfer or similar tax, if required. The date on which the Holder satisfies all of those requirements is the "Conversion Date." As soon as practicable after the Conversion Date applicable to a Note, the Company shall deliver to the Holder of such Note (i) a certificate for the number of whole shares of Common Stock issuable upon the conversion of such Note, (ii) cash in lieu of any fractional shares to be issued upon the conversion of such Note pursuant to Section 4.3, (iii) interest accrued, but unpaid, on such Note to the Conversion Date and (iv) an amount equal to the total cash dividends paid from the date of original issuance of the Note to the Conversion Date on the number of shares of Common Stock being converted.

The person in whose name the Common Stock certificate is registered shall be deemed to be a stockholder of record at the close of business on the Conversion Date; provided, however, that no surrender of a Note on any date when the stock transfer books of the Company shall be closed shall be effective to constitute the person or persons entitled to receive the shares of Common Stock upon such conversion as the record holder or holders of such shares of Common Stock on such date, but such surrender shall be effective to constitute the person or persons entitled to receive such shares of Common Stock as the record holder or holders thereof for all purposes at the close of business on the next succeeding day on which such stock transfer books are open; provided, further, that such conversion shall be at the Applicable Conversion Rate in effect on the Conversion Date as if the stock transfer books of the Company had not been closed. Upon conversion of a Note, such person shall no longer be a Holder of such Note. No payment or adjustment will be made for dividends or distributions on shares of Common Stock issued upon conversion of a Note except as set forth in the succeeding paragraph.

If a Holder converts more than one Note at the same time, the number of shares of Common Stock issuable upon the conversion shall be based on the aggregate principal amount of Notes converted.

Upon surrender of a Note that is converted in part, the Company shall execute and deliver to the Holder a new Note equal in principal amount to the unconverted portion of the Note surrendered. Any such Note shall be dated so that there shall be no loss of interest on such Note.

SECTION 4.3. FRACTIONAL SHARES.

The Company will not issue fractional shares of Common Stock upon conversion of Notes. In lieu thereof, the Company will pay an amount in cash for the current market value of the fractional shares. The current market value of a fractional share shall be determined, (calculated to the nearest 1/1000th of a share) by multiplying the Closing Price of the Common Stock on the Trading Day immediately prior to the Conversion Date by such fractional share and rounding the product to the nearest whole cent.

SECTION 4.4. TAXES ON CONVERSION.

If a Holder converts a Note, the Company shall pay any documentary, stamp or similar issue or transfer tax due on the issue of shares of Common Stock upon such conversion.

However, the Holder shall pay any such tax which is due because the Holder requests the shares to be issued in a name other than the Holder's name. The Company may refuse to deliver the certificate representing the Common Stock being issued in a name other than the Holder's name until the Company receives a sum sufficient to pay any tax which will be due because the shares are to be issued in a name other than the Holder's name. Nothing herein shall preclude any tax withholding required by law or regulation.

SECTION 4.5. COMPANY TO PROVIDE STOCK.

The Company shall, prior to issuance of any Notes hereunder, and from time to time as may be necessary, reserve, out of its authorized but unissued Common Stock, a sufficient number of shares of Common Stock to permit the conversion of all outstanding Notes into shares of Common Stock.

All shares of Common Stock delivered upon conversion of the Notes shall be newly issued shares, shall be duly authorized, validly issued, fully paid and nonassessable and shall be free from preemptive rights and free of any lien or adverse claim.

The Company will endeavor promptly to comply with all federal and state securities laws regulating the offer and delivery of shares of Common Stock upon conversion of Notes, if any, and will list or cause to have quoted such shares of Common Stock on each national securities exchange or on the Nasdaq National Market or other over-the-counter market or such other market on which the Common Stock is then listed or quoted; provided, however, that if rules of such automated quotation system or exchange permit the Company to defer the listing of such Common Stock until the first conversion of the Notes into Common Stock in accordance with the provisions of this Agreement, the Company covenants to list such Common Stock issuable upon conversion of the Notes in accordance with the requirements of such automated quotation system or exchange at such time. Any Common Stock issued upon conversion of a Note hereunder that at the time of conversion was subject to restrictions on transfer will continue to be subject to the restrictions on transfer applicable to the Note.

SECTION 4.6. ANTI-DILUTION ADJUSTMENTS.

The Applicable Conversion Rate will be subject to adjustment, without duplication, upon the occurrence of any of the following events:

(a) the Company pays a dividend or makes a distribution on the Common Stock, payable exclusively in shares of Common Stock, in which event, the conversion rate in effect immediately before the close of business on the record date fixed for determination of stockholders entitled to receive that dividend will be increased by multiplying: (x) the Applicable Conversion Rate; by (y) a fraction, (1) the numerator of which is the sum of the number of shares of Common Stock outstanding before the close of business on such record date and the total number of shares constituting such dividend or other distribution, and (2) the denominator of which shall be the number of shares of Common Stock outstanding before the close of business on such record date;

(b) the Company issues to all or substantially all holders of Common Stock rights or warrants that allow such holders to purchase shares of Common Stock for a period expiring

within 60 days from the date of issuance of the rights or warrants at less than the Closing Price on the record date for the determination of stockholders entitled to receive such rights or warrants, the Conversion Rate in effect immediately prior thereto shall be adjusted so that the same shall equal the rate determined by multiplying the Conversion Rate in effect immediately prior to such record date by a fraction of which the numerator shall be the number of shares of Common Stock outstanding at the close of business on such record date plus the number of additional shares of Common Stock offered and of which the denominator shall be the number of shares of Common Stock outstanding at the close of business on such record date plus the number of shares which the aggregate offering price of the total number of shares of Common Stock so offered for subscription or purchase would purchase at the Closing Price per share of Common Stock on such record date. Such adjustment shall be made successively whenever any such rights or warrants are issued, and shall become effective immediately after such record date. To the extent that shares of Common Stock are not delivered after the expiration of such rights or warrants, the Conversion Rate shall be readjusted to the Conversion Rate that would then be in effect had the adjustments made upon the issuance of such rights or warrants been made on the basis of delivery of only the number of Common Shares actually delivered. If such rights or warrants are not so issued, the Conversion Rate shall again be adjusted to be the Conversion Rate that would then be in effect if the record date for the determination of stockholders entitled to receive such rights or warrants had not been fixed.

(c) the Company:

(1) subdivides or splits the outstanding shares of Common Stock into a greater number of shares, in which event the Applicable Conversion Rate shall be proportionally increased immediately after the effective date of such subdivision or split;

(2) combines or reclassifies the outstanding shares of Common Stock

into a smaller number of shares, in which event the Applicable Conversion Rate shall be proportionally reduced immediately after the effective date of such combination or reclassification; or

(3) issues by reclassification of the shares of Common Stock any shares of the Capital Stock of the Company.

(d) the Company distributes to all or substantially all holders of Common Stock evidences of indebtedness, securities or assets or certain rights to purchase its securities (provided, however, that if these rights are only exercisable upon the occurrence of specified triggering events, then the Applicable Conversion Rate will not be adjusted until the triggering events occur), but excluding:

(1) dividends or distributions described in paragraph (a) above;

(2) rights or warrants described in paragraph (b) above;

(3) dividends or distributions paid exclusively in cash.

(the "distributed assets"), in which event (other than in the case of a spin-off as described below), the conversion rate in effect immediately before the close of business on the record date

fixed for determination of stockholders entitled to receive that distribution will be increased by multiplying:

(x) the Applicable Conversion Rate; by

(y) a fraction, (1) the numerator of which is the current market price of the Common Stock and (2) the denominator of which is the current market price of the Common Stock minus the fair market value, as determined by the Board of Directors, whose determination in good faith will be conclusive, of the portion of those distributed assets applicable to one share of Common Stock.

For purposes of this paragraph (d) (unless otherwise stated), the "current market price" of the Common Stock means the volume weighted average of the Closing Prices of the Common Stock for the five consecutive Trading Days ending on the Trading Day prior to the earlier of the record date or the ex-dividend Trading Day for such distribution, and the new Applicable Conversion Rate shall take effect immediately after the record date fixed for determination of the stockholders entitled to receive such distribution.

Notwithstanding the foregoing, in cases where (x) the fair market value per share of Common Stock of the distributed assets equals or exceeds the current market price of the Common Stock, or (y) the current market price of the Common Stock exceeds the fair market value per share of Common Stock of the distributed assets by less than $0.10, in lieu of the foregoing adjustment, the Holder will have the right to receive upon conversion, in addition to shares of Common Stock, the distributed assets the Holder would have received if the Holder had converted the Notes immediately prior to the record date.

(e) In respect of a dividend or other distribution of shares of Capital Stock of any class or series, or similar equity interests, of or relating to a Subsidiary of the Company or other business unit, referred to herein as a "spin-off," the Applicable Conversion Rate in effect immediately before the close of business on the record date fixed for determination of stockholders entitled to receive that distribution will be increased in an equitable manner by the Board of Directors of the Company.

In addition to the adjustments set forth above, the Company shall be entitled to increase the Applicable Conversion Rate at the discretion of the Board of Directors to avoid or diminish any income tax to holders of Common Stock or rights to purchase Common Stock resulting from any dividend or distribution of Capital Stock (or rights to acquire Capital Stock) or from any event treated as such for income tax purposes. The Company may also, from time to time, to the extent permitted by applicable law, increase the Applicable Conversion Rate by any amount for any period of at least 20 days if the Board of Directors has determined that such increase would be in the Company's best interests. If the Board of Directors makes such a determination, it will be conclusive. The Company will give Holders at least 15 days' notice of such an

increase in the Applicable Conversion Rate.

No adjustment to the Applicable Conversion Rate or a Holder's ability to convert its Notes will be made if the Holder otherwise participated in the distribution without conversion.

If a Holder will receive shares of Common Stock upon conversion of Notes, then the Holder will also receive any associated rights under any stockholder rights plan the Company may adopt, whether or not the rights have separated from the Common Stock at the time of conversion unless, prior to conversion, the rights have expired, terminated or been redeemed or exchanged.

As soon as reasonably practicable after an adjustment of the Applicable Conversion Rate, the Company will give notice to the Holders detailing the new Applicable Conversion Rate and other relevant information.

ARTICLE 5
COVENANTS

SECTION 5.1. PAYMENTS.

The Company shall promptly make all payments, to the fullest extent permitted by law, in respect of the Notes on the dates and in the manner provided in the Notes and this Agreement.

Payment of the principal of (and premium, if any) and any interest on the Notes shall be paid by wire transfer in immediately available funds at the election of a Holder if such Holder has provided wire transfer instructions to the Company at least 10 Business Days prior to the payment date, or, if no such instructions are received, by check mailed to such Holder on the payment date to the address of record of such Holder.

The Company shall, (in immediately available funds) to the fullest extent permitted by law, pay interest on overdue principal (including premium, if any) and overdue installments of interest at the rate borne by the Notes per annum.

Interest shall be payable, at the option of the Company, in cash or in shares of Common Stock; provided, however, that the Company shall not be permitted hereunder to pay such interest in shares of Common Stock unless (a) the issuance of such shares of Common Stock is registered under the Securities Act, (b) the resale of such shares of Common Stock is registered under the Securities Act or (c) the Company commits in a writing delivered to the Holders with such shares of Common Stock to register the resale of such shares in accordance with and on the terms and conditions set forth in the Registration Rights Agreement. In calculating the number of shares of Common Stock to be paid with respect to any interest payment (including any interest payable upon conversion of a Note), the Common Stock shall be valued at the volume weighted average of the Closing Prices of the Common Stock over the ten Trading Day period ending immediately prior to the date on which the interest payment is due and payable. Notwithstanding the foregoing, the number of shares of Common Stock (on an aggregated basis) payable with respect to each interest payment will be rounded to the nearest whole share (with .5 of a share rounded upward) and the Company shall not be required to issue fractional shares of Common Stock.

SECTION 5.2. MAINTENANCE OF CORPORATE EXISTENCE.

The Company will do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence, subject to its right to consolidate with or merge into any

other Person (in a transaction in which the Company is not the surviving corporation) or convey, transfer or lease its properties and assets substantially as an entirety to any Person in accordance with Section 7.1 of this Agreement.

SECTION 5.3. STAY, EXTENSION AND USURY LAWS.

The Company covenants (to the extent that it may lawfully do so) that it shall not at any time insist upon, plead, or in any manner whatsoever claim or

take the benefit or advantage of, any stay, extension or usury law or other law which would prohibit or forgive the Company from paying all or any portion of the principal of, premium, if any, or interest (including Additional Interest, if any) on the Notes as contemplated herein, wherever enacted, now or at any time hereafter in force, or which may affect the covenants or the performance of this agreement, and the Company (to the extent it may lawfully do so) hereby expressly waives all benefit or advantage of any such law and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to a Holder, but will suffer and permit the execution of every such power as though no such law had been enacted.

ARTICLE 6
SUBORDINATION OF SECURITIES

SECTION 6.1. NOTES SUBORDINATE TO SENIOR INDEBTEDNESS.

The Company covenants and agrees, and each Holder of a Note, by his acceptance thereof, likewise covenants and agrees, that, to the extent and in the manner hereinafter set forth in this Article 6, the indebtedness represented by the Notes and the payment of the principal of, premium, if any, and interest on each and all of the Notes are hereby expressly made subordinate and subject in right of payment to the prior payment in full of all Senior Indebtedness.

SECTION 6.2. PAYMENT OVER OF PROCEEDS UPON DISSOLUTION, ETC.

In the event of (a) any insolvency or bankruptcy case or proceeding, or any receivership, liquidation, reorganization or other similar case or proceeding in connection therewith, relative to the Company or its creditors, as such, or to its assets, or (b) any liquidation, dissolution or other winding up of the Company, whether voluntary or involuntary and whether or not involving insolvency or bankruptcy, or (c) any assignment for the benefit of creditors or any other marshaling of assets and liabilities of the Company, then and in any such event the holders of Senior Indebtedness shall be entitled to receive payment in full of all amounts due or to become due on or in respect of all Senior Indebtedness, or provision shall be made for such payment in money or money's worth, before the Holders of the Notes are entitled to receive any payment on account of principal of, premium, if any, or interest on the Notes and to that end the holders of Senior Indebtedness shall be entitled to receive, for application to the payment thereof, any payment or distribution of any kind or character, whether in cash, property or securities, which may be payable or deliverable in respect of the Notes in any such case, proceeding, dissolution, liquidation or other winding up or event.

In the event that, notwithstanding the foregoing provisions of this Section 6.2, the Holder of any Note shall have received any payment or distribution of assets of the Company of any

kind or character, whether in cash, property or securities, before all Senior Indebtedness is paid in full or payment thereof provided for, and if such fact shall, at or prior to the time of such payment or distribution, have been made known to the Company or, as the case may be, such Holder, then and in such event such payment or distribution shall be paid over or delivered forthwith to the trustee in bankruptcy, receiver, liquidating trustee, custodian, assignee, agent or other Person making payment or distribution of assets of the Company for application to the payment of all Senior Indebtedness remaining unpaid, to the extent necessary to pay all Senior Indebtedness in full, after giving effect to any concurrent payment or distribution to or for the holder of Senior Indebtedness.

For purposes of this Article 6 only, the words "cash, property or securities" shall not be deemed to include shares of stock of the Company as reorganized or readjusted, or securities of the Company or any other corporation provided for by a plan of reorganization or readjustment that are subordinated in right of payment to all Senior Indebtedness, which may at the time be outstanding to substantially the same extent as, or to a greater extent than, the Notes are so subordinated as provided in this Article 6.

The issuance and delivery of junior securities upon conversion of Notes in accordance with this Agreement shall not be deemed to constitute a payment or distribution on account of the principal of or premium or interest on Notes or on account of the purchase or other acquisition of securities. For the purposes of this Article 6, the term "junior securities" means Common Stock and any other

cash, property or securities into which the Notes are convertible pursuant to this Agreement. Nothing contained in this Article 6 or elsewhere in this Agreement or in the Notes is intended to or shall impair, as among the Company, its creditors other than holders of Senior Indebtedness and the Holders of the Notes, the right, which is absolute and unconditional, of the Holder of any Note to convert such Note in accordance with this Agreement.

The consolidation of the Company with, or the merger of the Company into, another Person or the liquidation or dissolution of the Company following the conveyance or transfer of all or substantially all of its properties and assets to another Person upon the terms and conditions set forth in this Agreement shall not be deemed a dissolution, winding up, liquidation, reorganization, assignment for the benefit of creditors or marshaling of assets and liabilities of the Company for the purposes of this Article 6 if the Person formed by such consolidation or into which the Company is merged or which acquires by conveyance or transfer all or substantially all of such properties and assets, as the case may be, shall, as a part of such consolidation, merger, conveyance or transfer, comply with the conditions set forth in this Agreement.

SECTION 6.3. NO PAYMENT WHEN SENIOR INDEBTEDNESS IN DEFAULT.

Upon the maturity of any Senior Indebtedness of the Company by lapse of time, acceleration or otherwise, all principal thereof (and premium, if any) and interest due thereon, including interest thereon accruing after the commencement of any proceeding of the type referred to in Section 6.2 above, and all other amounts due on or with respect thereto, shall first be paid in full, or such payment duly provided for in cash, before any payment, directly or indirectly, is made by the Company on account of the principal of, premium, if any, or interest

on the Notes. Upon the happening of an event of default with respect to any Senior Indebtedness of the Company, as defined therein or in the instrument under which it is outstanding permitting the holders to accelerate the maturity thereof, then, unless and until such event of default shall have been cured or waived or shall have ceased to exist, no payment shall be made by the Company, directly or indirectly, on account of the principal of or interest on the Notes.

In the event that, notwithstanding the foregoing, the Company shall make any payment to the Holder of any Note prohibited by the foregoing provisions of this Section, and if such fact shall, at or prior to the time of such payment, have been made known to the Company or, as the case may be, such Holder, then and in such event such payment shall be paid over and delivered forthwith to the Company.

The provisions of this Section 6.3 shall not apply to any payment with respect to which Section 6.2 would be applicable.

SECTION 6.4. PAYMENT PERMITTED IF NO DEFAULT.

Nothing contained in this Article 6 or elsewhere in this Agreement or in any of the Notes shall prevent the Company, at any time except during the pendency of any case, proceeding, dissolution, liquidation or other winding up, assignment for the benefit of creditors or other marshaling of assets and liabilities of the Company referred to in Section 6.2 or under the conditions described in Section 6.3, from making payments at any time of principal of, premium, if any, or interest on the Notes.

SECTION 6.5. SUBROGATION TO RIGHTS OF HOLDERS OF SENIOR INDEBTEDNESS.

Subject to the payment in full of all Senior Indebtedness, the Holders of the Notes shall be subrogated to the extent of the payments or distributions made to the holders of such Senior Indebtedness pursuant to the provisions of this Article 6 to the rights of the holders of such Senior Indebtedness to receive payments and distributions of cash, property and securities applicable to the Senior Indebtedness until the principal of, premium, if any, and interest on the Notes shall be paid in full. For purposes of such subrogation, no payments or distributions to the holders of the Senior Indebtedness of any cash, property or securities to which the Holders of the Notes would be entitled except for the provisions of this Article 6, and no payments pursuant to the provisions of this Article 6 to the holders of Senior Indebtedness by Holders of the Notes, shall, as among the Company, its creditors other than holders of Senior Indebtedness and the Holders of the Notes, be deemed to be a payment or

distribution by the Company to or on account of the Senior Indebtedness.

SECTION 6.6. PROVISIONS SOLELY TO DEFINE RELATIVE RIGHTS.

The provisions of this Article 6 are and are intended solely for the purpose of defining the relative rights of the Holders of the Notes on the one hand and the holders of Senior Indebtedness on the other hand. Nothing contained in this Article 6 or elsewhere in this Agreement or in the Notes is intended to or shall (a) impair, as among the Company, its creditors other than holders of Senior Indebtedness and the Holders of the Notes, the obligation of the

Company, which is absolute and unconditional (and which, subject to the rights under this Article 6 of the holders of Senior Indebtedness, is intended to rank equally with all other general unsecured obligations of the Company), to pay to the Holders of the Notes the principal of, premium, if any, and interest on the Notes as and when the same shall become due and payable in accordance with their terms; or (b) affect the relative rights against the Company of the Holders of the Notes and creditors of the Company other than the holders of Senior Indebtedness; or (c) prevent the Holder of any Note from exercising all remedies otherwise permitted by applicable law upon default under this Agreement, subject to the rights, if any, under this Article 6 of the holders of Senior Indebtedness to receive cash, property and securities otherwise payable or deliverable to such Holder.

SECTION 6.7. NO WAIVER OF SUBORDINATION PROVISIONS.

No right of any present or future holder of any Senior Indebtedness to enforce subordination as herein provided shall at any time in any way be prejudiced or impaired by any act or failure to act on the part of the Company or by any act or failure to act, in good faith, by any such holder, or by any non-compliance by the Company with the terms, provisions and covenants of this Agreement, regardless of any knowledge thereof any such holder may have or be otherwise charged with.

Without in any way limiting the generality of the foregoing paragraph, the holders of Senior Indebtedness may, at any time and from time to time, without the consent of or notice to the Holders of the Notes, without incurring responsibility to the Holders of the Notes and without impairing or releasing the subordination provided in this Article 6 or the obligations hereunder of the Holders of the Notes to the holders of Senior Indebtedness, do any one or more of the following: (i) change the manner, place or terms of payment or extend the time of payment of, or renew or alter, Senior Indebtedness, or otherwise amend or supplement in any manner Senior Indebtedness or any instrument evidencing the same or any agreement under which Senior Indebtedness is outstanding; (ii) sell, exchange, release or otherwise deal with any property pledged, mortgaged or otherwise securing Senior Indebtedness; (iii) release any Person liable in any manner for the collection of Senior Indebtedness; and (iv) exercise or refrain from exercising any rights against the Company and any other Person.

SECTION 6.8. RELIANCE ON JUDICIAL ORDER OR CERTIFICATE OF LIQUIDATING AGENT.

Upon any payment or distribution of assets of the Company referred to in this Article 6, the Holders of the Notes shall be entitled to conclusively rely upon any order or decree entered by any court of competent jurisdiction in which such insolvency, bankruptcy, receivership, liquidation, reorganization, dissolution, winding up or similar case or proceeding is pending, or a certificate of the trustee in bankruptcy, receiver, liquidating trustee, custodian, assignee for the benefit of creditors, agent or other Person making such payment or distribution, delivered to the Holders of Notes, for the purpose of ascertaining the Persons entitled to participate in such payment or distribution, the holders of the Senior Indebtedness and other indebtedness of the Company, the amount thereof or payable thereon, the amount or amounts paid or distributed thereon and all other facts pertinent thereto or to this Article 6.

ARTICLE 7
CONSOLIDATION, MERGER, CONVEYANCE, TRANSFER OR LEASE

SECTION 7.1. COMPANY MAY CONSOLIDATE, ETC, ONLY ON CERTAIN TERMS.

The Company shall not consolidate with or merge into any other Person (in a transaction in which the Company is not the surviving corporation) or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

(1) in case the Company shall consolidate with or merge into another Person (in a transaction in which the Company is not the surviving corporation) or convey, transfer or lease its properties and assets substantially as an entirety to any Person, the Person formed by such consolidation or into which the Company is merged or the Person which acquires by conveyance or transfer, or which leases, the properties and assets of the Company substantially as an entirety shall expressly assume, by an agreement supplemental hereto, executed and delivered to the Company and each Holder, in customary form, the due and punctual payment of the principal of and any premium and interest on all the Notes and the performance or observance of every covenant of this Agreement on the part of the Company to be performed or observed and the conversion rights shall be provided for in accordance with this Agreement by supplemental agreement in customary form, executed and delivered to each Holder, by the Person (if other than the Company) formed by such consolidation or into which the Company shall have been merged or by the Person which shall have acquired the Company's assets; and

(2) immediately after giving effect to such transaction, no Event of Default, and no event which, after notice or lapse of time or both, would become an Event of Default, shall have happened and be continuing.

In the case of a reclassification, consolidation, merger, sale or transfer of assets or other transactions pursuant to which all or substantially all of the Common Stock would be converted into other securities, cash or property, the right to convert Notes into Common Stock will be changed into a right to convert Notes into the kind and amount of other securities, cash or property that the Holder would have received had the Holder converted such Notes immediately prior to the transaction.

SECTION 7.2. SUCCESSOR SUBSTITUTED.

Upon any consolidation of the Company with, or merger of the Company into, any other Person or any conveyance, transfer or lease of the properties and assets of the Company substantially as an entirety in accordance with this Agreement, there shall be an adjustment to the Applicable Conversion Rate and the successor Person formed by such consolidation or into which the Company is merged or to which such conveyance, transfer or lease is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Agreement with the same effect as if such successor Person had been named as the

Company herein, and thereafter, except in the case of a lease, the predecessor Person shall be relieved of all obligations and covenants under this Agreement and the Notes.

ARTICLE 8
DEFAULT AND REMEDIES

SECTION 8.1. EVENTS OF DEFAULT.

An "Event of Default" shall occur if:

(1) the Company defaults in the payment of any interest on any Note when the same becomes due and payable and the default continues for a period of 60 days;

(2) the Company defaults in the payment of any principal of (including, without limitation, any premium, if any, on) any Note when the same becomes due and payable (whether at maturity, upon redemption, on a Fundamental Change Repurchase Date or otherwise);

(3) the Company fails to comply with any of its other agreements contained in the Notes or this Agreement and the default continues for

the period and after the notice specified below;

(4) the Company defaults in the payment of the purchase price of any Note when the same becomes due and payable;

(5) the Company fails to provide notice of a Fundamental Change to each Holder if required by Section 3.2(c) for a period of 30 days after notice of failure to do so; or

(6) any indebtedness under any bond, debenture, note or other evidence of indebtedness for money borrowed by the Company or any Significant Subsidiary (all or substantially all of the outstanding voting securities of which are owned, directly or indirectly, by the Company) or under any mortgage, indenture or instrument under which there may be issued or by which there may be secured or evidenced any indebtedness for money borrowed by the Company or any Significant Subsidiary (all or substantially all of the outstanding voting securities of which are owned, directly or indirectly, by the Company) (an "Instrument") with an aggregate outstanding principal amount then outstanding in excess of $1,000,000, whether such indebtedness now exists or shall hereafter be created, is not paid at final maturity of the Instrument (either at its stated maturity or upon acceleration thereof), and such indebtedness is not discharged, or such acceleration is not rescinded or annulled, within a period of 60 days after there shall have been given, by registered or certified mail, to the Company by the Holders of at least 25% in aggregate principal amount of the outstanding Notes a written notice specifying such default and requiring the Company to cause such indebtedness to be discharged or cause such default to be cured or waived or such acceleration to be rescinded or annulled and stating that such notice is a "Notice of Default" hereunder; or

(7) the Company or any Significant Subsidiary, pursuant to or within the meaning of any Bankruptcy Law:

(A) commences a voluntary case or proceeding;

(B) consents to the entry of an order for relief against it in an involuntary case or proceeding;

(C) consents to the appointment of a Custodian of it or for all or substantially all of its property; or

(D) makes a general assignment for the benefit of its creditors; or

(8) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

(A) is for relief against the Company or any Significant Subsidiary in an involuntary case or proceeding;

(B) appoints a Custodian of the Company or any Significant Subsidiary or for all or substantially all of the property of the Company or any Significant Subsidiary; or

(C) orders the liquidation of the Company or any Significant Subsidiary; and in each case the order or decree remains unstayed and in effect for 60 consecutive days.

The term "Bankruptcy Law" means Title 11 of the United States Code (or any successor thereto) or any similar federal or state law for the relief of debtors. The term "Custodian" means any receiver, trustee, assignee, liquidator, sequestrator or similar official under any Bankruptcy Law.

A default under clause (3) above is not an Event of Default until Holders of at least 25% in aggregate principal amount of the Notes then outstanding notify the Company, in writing of the default, and the Company does not cure the default within 60 days after receipt of such notice. The notice given pursuant to this Section 8.1 must specify the default, demand that it be remedied and state that the notice is a "Notice of Default." When any default under this Section 8.1 is cured, it ceases.

SECTION 8.2. ACCELERATION.

If an Event of Default (other than an Event of Default specified in clause (7) or (8) of Section 8.1) occurs and is continuing, the Holders of at least 25% in aggregate principal amount of the Notes then outstanding may, by notice to the Company, declare all unpaid principal to the date of acceleration on the Notes then outstanding (if not then due and payable) to be due and payable upon any such declaration, and the same shall become and be immediately due and payable. If an Event of Default specified in clause (7) or (8) of Section 8.1 occurs, all unpaid principal of the Notes then outstanding shall ipso facto become and be immediately due and payable without any declaration or other act on the part of any Holder. The Holders of a majority in aggregate principal amount of the Notes then outstanding by notice to the Company may rescind an acceleration and its consequences if (a) all existing Events of Default, other than the nonpayment of the principal of the Notes that has become due solely by such declaration of acceleration, have been cured or waived; (b) to the extent the payment of such interest is lawful, interest (calculated at the rate per annum borne by the Notes) on overdue installments of interest and overdue principal, which has become due otherwise than by such declaration of acceleration, has been paid; and (c) the rescission would not conflict with any judgment or decree of a court of competent jurisdiction. No such rescission shall affect any subsequent default or impair any right consequent thereto.

SECTION 8.3. OTHER REMEDIES.

If an Event of Default occurs and is continuing, each Holder may, but shall not be obligated to, pursue any available remedy by proceeding at law or in equity to collect the payment of the principal of or interest on the Notes or to enforce the performance of any provision of the Notes or this Agreement. All available remedies are cumulative to the extent permitted by law.

SECTION 8.4. WAIVER OF DEFAULTS AND EVENTS OF DEFAULT.

Subject to Sections 8.6 and 9.2, the Holders of a majority in aggregate principal amount of the Notes then outstanding by notice to the Company may waive an existing default or Event of Default and its consequence, except a default or Event of Default in the payment of the principal of or interest on any Note, a failure by the Company to convert any Notes into Common Stock in accordance with the provisions of the Notes and this Agreement or any default or Event of Default in respect of any provision of this Agreement or the Notes which, under Section 9.2, cannot be modified or amended without the consent of the Holder of each Note affected. When a default or Event of Default is waived, it is cured and ceases.

SECTION 8.5. CONTROL BY MAJORITY.

The Holders of a majority in aggregate principal amount of the Notes then outstanding may direct the time, method and place of conducting any proceeding for any remedy with respect to this Agreement.

SECTION 8.6. RIGHTS OF HOLDERS TO RECEIVE PAYMENT AND TO CONVERT.

Notwithstanding any other provision of this Agreement, the right of any Holder of a Note to receive payment of the principal of and interest on the Note, on or after the respective due dates expressed in the Note and this Agreement, to convert such Note in accordance with Article 4 and to bring suit for the enforcement of any such payment on or after such respective dates or the right to convert, is absolute and unconditional, subject to applicable law, and shall not be impaired or affected without the consent of the Holder.

ARTICLE 9
AMENDMENTS, SUPPLEMENTS AND WAIVERS

SECTION 9.1. WITHOUT CONSENT OF HOLDERS.

The Company may amend or supplement this Agreement or the Notes without notice to or consent of any Noteholder:

(a) to comply with Section 7.1;

(b) to cure any ambiguity, defect or inconsistency;

(c) to make any other change that does not adversely affect the rights of any Noteholder;

(d) to add to the covenants of the Company for the equal and ratable benefit of the Noteholders or to surrender any right, power or option conferred upon the Company; or

(e) to secure the Company's obligations with respect to the Notes.

SECTION 9.2. WITH CONSENT OF HOLDERS.

The Company may amend or supplement this Agreement or the Notes with the written consent of the Holders of at least a majority in aggregate principal amount of the Notes then outstanding. The Holders of at least a majority in aggregate principal amount of the Notes then outstanding may waive compliance in a particular instance by the Company with any provision of this Agreement or the Notes without notice to any Noteholder. However, notwithstanding the foregoing but subject to Section 9.3, without the written consent of each Noteholder affected, an amendment, supplement or waiver, including a waiver pursuant to Section 8.4, may not:

(a) change the stated maturity of the principal of, or interest on, any Note;

(b) reduce the principal amount of, or any premium or interest on, any Note;

(c) reduce the amount of principal payable upon acceleration of the maturity of any Note;

(d) change the place or currency of payment of principal of, or any premium or interest on, any Note;

(e) impair the right to institute suit for the enforcement of any payment on, or with respect to, any Note;

(f) modify the provisions with respect to the purchase right of Holders pursuant to Article 3 upon a Fundamental Change in a manner adverse to Holders;

(g) adversely affect the right of Holders to convert Notes other than as provided in or under Article 4 of this Agreement;

(h) reduce the percentage of the aggregate principal amount of the outstanding Notes whose Holders must consent to a modification or amendment;

(i) reduce the percentage of the aggregate principal amount of the outstanding Notes necessary for the waiver of compliance with certain provisions of this Agreement or the waiver of certain defaults under this Agreement; or

(j) modify any of the provisions of this Section or Section 8.4, except to increase any such percentage or to provide that certain provisions of this Agreement cannot be modified or waived without the consent of the Holder of each outstanding Note affected thereby.

It shall not be necessary for the consent of the Holders under this Section 9.2 to approve the particular form of any proposed amendment, supplement or waiver, but it shall be sufficient if such consent approves the substance thereof.

After an amendment, supplement or waiver under this Section 9.2 becomes effective, the Company shall mail to the Holders affected thereby a notice briefly describing the amendment, supplement or waiver. Any failure of the Company to mail such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such amendment, supplement or waiver.

To the extent that the Company or any of the Subsidiaries hold any Notes, such Notes shall be disregarded for purposes of voting in connection with any notice, waiver, consent or direction requiring the vote or concurrence of Noteholders.

SECTION 9.3. REVOCATION AND EFFECT OF CONSENTS.

Until an amendment, supplement or waiver becomes effective, a consent to it by a Holder is a continuing consent by the Holder and every subsequent Holder of a Note or portion of a Note that evidences the same debt as the consenting Holder's Note, even if notation of the consent is not made on any Note. However, any such Holder or subsequent Holder may revoke the consent as to its Note or portion of a Note if the Company receives the notice of revocation before the date the amendment, supplement or waiver becomes effective.

After an amendment, supplement or waiver becomes effective, it shall bind every Noteholder, unless it makes a change described in any of clauses (a) through (j) of Section 9.2. In that case the amendment, supplement or waiver shall bind each Holder of a Note who has consented to it and every subsequent Holder of a Note or portion of a Note that evidences the same debt as the consenting Holder's Note.

SECTION 9.4. NOTICES.

Any demand, authorization notice, request, consent or communication shall be given in writing and delivered in person or mailed by first-class mail, postage prepaid, addressed as follows or transmitted by facsimile transmission (confirmed by delivery in person or mail by first-class mail, postage prepaid, or by guaranteed overnight courier) to the following facsimile numbers:

If to the Company, to:

Hybridon, Inc.
345 Vassar Street
Cambridge, MA 02139-4818
Attention: Chief Financial Officer
Facsimile No.: (617) 679-5592
Phone No.: (617) 679-5500

With a copy to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Attention: David E. Redlick, Esq.
Facsimile No.: (617) 526-5000
Phone No.: (617) 526-6434

Such notices or communications shall be effective when received.

The Company by notice to the Holders may designate additional or different addresses for subsequent notices or communications.

Any notice or communication mailed to a Noteholder shall be delivered by a recognized delivery service (with no more than two-day delivery) or by other electronic means specified by such Holder to it at its address shown on the records of the Company, with a copy faxed on the date any such notice is given to Pillar Investment Limited, al-moutrane street, Beirut 2012-7016 Lebanon, fax no: + 961 1 970 666.

Failure to mail a notice or communication to a Noteholder or any defect in it shall not affect its sufficiency with respect to other Noteholders. If a notice or communication to a Noteholder is mailed in the manner provided above, it is duly given, whether or not the addressee receives it.

SECTION 9.5. LEGAL HOLIDAYS.

A "Legal Holiday" is a Saturday, Sunday or a day on which state or federally chartered banking institutions in Boston, Massachusetts are not required to be open. If a payment date is a Legal Holiday, payment shall be made on the next succeeding day that is not a Legal Holiday, and no interest shall accrue for the intervening period. If a record date is a Legal Holiday, the

record date shall not be affected.

SECTION 9.6. GOVERNING LAW.

This Agreement and the Notes shall be governed by, and construed in accordance with, the laws of the Commonwealth of Massachusetts.

SECTION 9.7. SUCCESSORS.

All agreements of the Company in this Agreement and the Notes shall bind its successor.

SECTION 9.8. MULTIPLE COUNTERPARTS.

The parties may sign multiple counterparts of this Agreement. Each signed counterpart shall be deemed an original, but all of them together represent the same agreement.

SECTION 9.9. SEPARABILITY.

In case any provisions in this Agreement or in the Notes shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

[Signature page immediately follows.]

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands as of the date and year first above written.

HYBRIDON, INC.

By: R. Andersen

Name: R.G. Andersen
Title: CFO

NOTEHOLDERS:

Counterpart signature pages attached

EXHIBIT A

THIS NOTE AND ANY COMMON STOCK ISSUABLE UPON THE CONVERSION OF THIS NOTE OR AS PAYMENT OF INTEREST ON THIS NOTE HAVE NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR ANY APPLICABLE EXEMPTION THEREFROM.

THIS NOTE AND ANY COMMON STOCK ISSUABLE UPON THE CONVERSION OF THIS NOTE OR AS PAYMENT OF INTEREST ON THIS NOTE MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS (I) A REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT IS IN EFFECT, (II) THE CORPORATION HAS RECEIVED AN OPINION OF COUNSEL, WHICH OPINION IS SATISFACTORY TO THE CORPORATION, TO THE EFFECT THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OR (III) SUCH OFFER OR TRANSFER IS MADE IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S UNDER THE SECURITIES ACT. HEDGING TRANSACTIONS INVOLVING THESE SECURITIES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE SECURITIES ACT.

THE HOLDER OF THIS SECURITY IS ENTITLED TO THE BENEFITS OF A NOTEHOLDERS AGREEMENT AND A REGISTRATION RIGHTS AGREEMENT AND, BY ITS ACCEPTANCE HEREOF, AGREES TO BE BOUND BY AND TO COMPLY WITH THE PROVISIONS OF SUCH AGREEMENTS.

HYBRIDON, INC.

4% CONVERTIBLE SENIOR NOTES DUE 2008

Hybridon, Inc., a Delaware corporation (the "Company", which term shall include any successor corporation under the Noteholders Agreement referred to below), promises to pay _____, or registered assigns, the principal sum of _____ Dollars ($_____) on April 30, 2008. The Company promises to pay interest on the principal amount of this Note at the rate of 4.00% per annum. The first interest payment date on this Note is December 15, 2005, and thereafter, the Company shall pay interest semi-annually in arrears on April 30 and October 30 of each calendar year and at maturity, whether by acceleration or otherwise. Interest on the Notes shall accrue from the most recent date to which interest has been paid or, if no interest has been paid, from _____, 2005. Interest will be computed on the basis of a 360-day year of twelve 30-day months.

This Note is one of a duly authorized issue of Notes of the Company designated as its 4% Convertible Subordinated Notes due April 30, 2008 (the "Notes"), issued under a Noteholders Agreement, dated as of _____, 2005 (together with any supplements thereto, the "Noteholders Agreement"), between the Company and the initial Holders. The Holders are entitled to the benefits thereof.

IN WITNESS WHEREOF, the Company has caused this instrument to be duly executed.

Attest: HYBRIDON, INC.

Name:

Title:

Dated:

By: _____

Name: _____

Title: _____

ASSIGNMENT FORM

I or we assign and transfer this Note to:

_____	_____
(Assignee's name, address and zip code)	(Assignee's soc. sec. or tax I.D. no.)

Date: _____ _____

(Sign exactly as your name appears on the other side of this Note)

*Signature guaranteed by:

By: _____

* Signature to be guaranteed in a manner satisfactory to the Company.

CONVERSION NOTICE

To convert this Note into Common Stock of the Company, check the box: [ ]

To convert only part of this Note, state the principal amount to be converted (must be $1,000 or a integral multiple of $1,000): $ _____

If you want the stock certificate made out in another person's name, fill in the form below:

I or we assign and transfer this Note to:

_____	_____
(Assignee's name, address and zip code)	(Assignee's soc. sec. or tax I.D. no.)

Date: _____ _____

(Sign exactly as your name appears on the other side of this Note)

*Signature guaranteed by:

By:
---

* Signature to be guaranteed in a manner satisfactory to the Company.

OPTION TO ELECT REPURCHASE UPON A FUNDAMENTAL CHANGE

To: Hybridon, Inc. The undersigned registered owner of this Note hereby irrevocably acknowledges receipt of a notice from Hybridon, Inc. (the "Company") as to the occurrence of a Fundamental Change with respect to the Company and requests and instructs the Company to redeem the entire principal amount of this Note, or the portion thereof (which is $1,000 or an integral multiple thereof) below designated, in accordance with the terms of the Noteholders Agreement referred to in this Note at the Fundamental Change Repurchase Price, together with accrued interest to, but excluding, such date, to the registered Holder hereof.

Date:
------ ---

(Sign exactly as your name appears on the other side of this Note)

Principal amount to be redeemed (in an integral multiple of $1,000, if less than all):

Signature guaranteed by (in a manner satisfactory to the Company):

By:

EXHIBIT B

CERTIFICATE TO BE DELIVERED UPON EXCHANGE OR REGISTRATION OF TRANSFER OF TRANSFER RESTRICTED SECURITIES(4)

Re: 4% Convertible Subordinated Notes due 2008 (the "Notes") of Hybridon, Inc.

This certificate relates to $_____ principal amount of Notes owned in (check applicable box) by _____(the "Transferor").

The Transferor has requested the Company to exchange or register the transfer of such Notes.

In connection with such request and in respect of each such Note, the Transferor does hereby certify that the Transferor is familiar with transfer restrictions relating to the Notes as provided in Section 2.5 of the Noteholders Agreement dated as of May 20, 2005 between Hybridon, Inc. and the initial Holders of the Notes (the "Noteholders Agreement"), and the transfer of such Note does not require registration under the Securities Act because (check applicable box):

[ ] Such Note is being transferred outside the United States in an offshore transaction in accordance with Rule 904 under the Securities Act.

[ ] Such Note is being acquired for the Transferor's own account, without transfer.

[ ] Such Note is being transferred to the Company or a Subsidiary (as defined in the Noteholders Agreement) of the Company.

[ ] Such Note is being transferred pursuant to and in compliance with an exemption from the registration requirements under the Securities Act in accordance with Rule 144 (or any successor thereto) ("Rule 144") under the Securities Act.

[ ] Such Note is being transferred pursuant to and in compliance with an exemption from the registration requirements of the Securities Act (other than an exemption referred to above) and as a result of which such Note will, upon such transfer, cease to be a "restricted security" within the meaning of Rule 144 under the Securities Act.

Date:

(Insert Name of Transferor)

Exhibit 10.8

HYBRIDON, INC.

REGISTRATION RIGHTS AGREEMENT

dated as of May 20, 2005

HYBRIDON, INC.

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this "AGREEMENT") is entered into as of May 20, 2005 by and among Hybridon, Inc., a Delaware corporation (the "COMPANY"), the persons and entities listed on the Schedule of Purchasers attached hereto as Exhibit A (the "PURCHASERS") and the entity listed on the Agent Schedule attached hereto as Exhibit B (the "AGENT"). The Purchasers and the Agent shall become parties to this Agreement by the execution and delivery of counterpart signature pages hereto in a form reasonably satisfactory to the Company.

WHEREAS, the Company is conducting an offering (the "OFFERING") of convertible subordinated notes (the "NOTES"), as described in the Confidential Private Placement Memorandum dated April 26, 2005 (the "MEMORANDUM");

WHEREAS, either the Company or the Purchasers may, under specified circumstances, cause the Notes to be converted into shares of the Company's common stock, $0.001 par value per share (the "COMMON STOCK"), as described in the Memorandum;

WHEREAS, the Company may pay accrued interest on the Notes by issuing to the Purchasers shares of Common Stock under the terms of the Notes (the "INTEREST SHARES");

WHEREAS, in connection with the Offering, the Company has engaged the Agent and has agreed to issue to the Agent a warrant (the "AGENT WARRANT") to purchase shares of Common Stock; and

WHEREAS, to induce the Purchasers to purchase Notes in the Offering and the Agent to assist the Company in the Offering, the Company has agreed to provide certain registration rights under the Securities Act (as defined below) and applicable state securities laws;

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company, the Agent and each of the Purchasers hereby agree as follows:

1. Certain Definitions. As used in this Agreement, the following terms shall have the following meanings:

(a) "Business Day" means any day other than Saturday, Sunday or any other day on which commercial banks in The City of New York or in Boston, Massachusetts are required by law to remain closed.

(b) "Commission" means the Securities and Exchange Commission, or any other federal agency at the time administering the Securities Act.

(c) "Exchange Act" means the Securities Exchange Act of 1934, as amended, or any successor federal statute, and the rules and regulations of the Commission issued under such Act, as they each may, from time to time, be in effect.

(d) "Indemnified Party" means a party entitled to indemnification pursuant to Section 7.

(e) "Indemnifying Party" means a party obligated to provide indemnification pursuant to Section 7.

(f) "Person" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated

organization or association and governmental or any department or agency thereof.

(g) "Registrable Securities" means (i) the shares of Common Stock issuable upon conversion of the Notes, (ii) the shares of Common Stock issued or issuable upon exercise of the Agent Warrant, (iii) solely in the context of an Interest Payment Registration Statement, the Interest Shares, and (iv) any other shares of Common Stock issued in respect of such shares (as a result of a stock split, stock dividend, reclassification, recapitalization or other similar transaction affecting the Common Stock); provided, however, that shares of Common Stock that are Registrable Securities shall cease to be Registrable Securities upon the earliest of (A) the date that such shares are eligible to be sold under Rule 144 of the Securities Act, without restriction by the volume limitations of Rule 144(e) of the Securities Act, (B) the date that such shares are sold (I) pursuant to a registration statement, (II) to or through a broker, dealer or underwriter in a public securities transaction and/or (III) in a transaction exempt from the registration and prospectus delivery requirements of the Securities Act such that all transfer restrictions and restrictive legends with respect thereto, if any, are removed upon the consummation of such sale, or (C) any sale or transfer to any Person which by virtue of Section 9 of this Agreement is not entitled to the rights provided by this Agreement. Wherever reference is made in this Agreement to a request or consent of holders of a certain percentage of Registrable Securities, the determination of such percentage shall include shares of Common Stock issuable upon exercise of the Agent Warrant even if such exercise has not been effected.

(h) "Registration Statement" means a registration statement of the Company filed under the Securities Act and covering the Registrable Securities.

(i) "Rightsholders" means the Purchasers, the Agent and any persons or entities to whom the rights granted under this Agreement are transferred by any Purchaser, Agent or his or its successors or assigns pursuant to Section 9 of this Agreement.

(j) "Securities Act" means the Securities Act of 1933, as amended, or any successor federal statute, and the rules and regulations of the Commission issued under such Act, as they each may, from time to time, be in effect.

2. Registration

(a) The Company shall use its best efforts to prepare and file with the Commission a Registration Statement (the "Primary Registration Statement") covering the resale of all of the Registrable Securities and such other shares of Common Stock as the Company may be required to include pursuant to registration rights agreements with other Persons within 60 days of the date hereof. The Company shall use its best efforts to have the Primary Registration

Statement declared effective by the Commission within 90 days after the date the Primary Registration Statement is filed or as soon as possible thereafter.

(b) The Company shall be permitted hereunder to amend the Registration Statement filed by the Company pursuant to Section 2(a) to cover the resale of any Interest Shares issued or to be issued by the Company, without the need to obtain any consent of the Rightsholders, whether such amendment is filed as a pre-effective or post-effective basis. In addition, the Company may file hereunder one or more additional Registration Statements covering the resale of Interest Shares issued or to be issued by the Company (an "Interest Payment Registration Statement"). In the event that the Company files an Interest Payment Registration Statement, the Company and the Rightsholders shall have all of the rights and obligations with respect to such Interest Payment Registration Statement and the Interest Shares that the Rightsholders have under this Agreement with respect to the Primary Registration Statement and the Registrable Securities.

(c) The Company shall use its best efforts to cause each Registration Statement to remain effective until the date on which the Rightsholders do not hold any Registrable Securities covered by such Registration Statement.

3. Registration Procedures.

(a) In connection with the effectiveness of the Registration Statement, the Company shall furnish to each Rightsholder such reasonable

numbers of copies of the prospectus and such documents incident thereto, including any amendment of or supplement to the prospectus, as a Rightsholder from time to time may reasonably request in order to facilitate the disposition of such Rightsholder's Registrable Securities under the Registration Statement in conformity with the requirements of the Securities Act.

(b) The Company shall use its best efforts to register or qualify the Registrable Securities covered by the Registration Statement under the securities laws of such states of the United States as the Rightsholders may reasonably request; provided, however, that the Company shall not be required in connection with this paragraph (b) to qualify as a foreign corporation or execute a general consent to service of process in any jurisdiction.

(c) If the Company has delivered preliminary or final prospectuses to the Rightsholders and if after having done so the Company determines that the prospectus and/or the Registration Statement needs to be amended or supplemented to comply with the requirements of the Securities Act, the Company shall promptly notify the Rightsholders and, if requested by the Company, the Rightsholders shall immediately cease making offers or sales of shares under the Registration Statement and shall return all prospectuses to the Company. The Company shall as promptly as reasonably practicable prepare and file with the Commission any required amendment or supplement and following such filing, and, if applicable, the effectiveness of such filing, shall provide the Rightsholders with revised or supplemented prospectuses. Following receipt of the revised or supplemented prospectuses, the Rightsholders shall be free to resume making offers and sales under the Registration Statement.

(d) The Company shall use its best efforts to cause all such Registrable Securities registered pursuant to this Agreement to be listed on each securities exchange on which similar securities issued by the Company are then listed.

4. Limitations on Registration Rights.

(a) The Company may, by written notice to the Rightsholders, (i) delay the filing of, or effectiveness of, a Registration Statement or (ii) suspend a Registration Statement after effectiveness and require that the Rightsholders immediately cease sales of shares pursuant to the Registration Statement, in the event that the Company is engaged in any activity or transaction or preparations or negotiations for any activity or transaction that the Company desires to keep confidential for business reasons, if the Company determines in good faith that the public disclosure requirements imposed on the Company under the Securities Act in connection with the Registration Statement would require disclosure of such activity, transaction, preparations or negotiations.

(b) If the Company requires the Rightsholders to cease sales of shares pursuant to paragraph (a) above, the Company shall, as promptly as practicable following the termination of the circumstance which entitled the Company to do so, take such actions as may be necessary to reinstate the effectiveness of the Registration Statement and/or give written notice to all Rightsholders authorizing them to resume sales pursuant to the Registration Statement. If as a result thereof the prospectus included in the Registration Statement has been amended to comply with the requirements of the Securities Act, the Company shall enclose such revised prospectus with the notice to Rightsholders given pursuant to this paragraph (b), and the Rightsholders shall make no offers or sales of shares pursuant to the Registration Statement other than by means of such revised prospectus.

(c) Notwithstanding the foregoing, the Company may not (i) delay the filing of, or the effectiveness of, a Registration Statement or (ii) suspend a Registration Statement, pursuant to paragraph (a) above on more than two occasions during any 12-month period or for more than 60 days per such occasion.

5. Obligations of the Rightsholders.

(a) The Company shall not be required to include any Registrable Securities in a Registration Statement unless such Rightsholder shall have furnished to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required by the Company to effect the effectiveness of the Registration Statement and unless such Rightsholder shall have executed such documents in connection with the Registration Statement

as the Company may reasonably request. Each Rightsholder shall promptly notify the Company of any material change with respect to such information previously provided to the Company by such Rightsholder, including without limitation notice of the sale by the Rightsholder of any Registrable Securities.

(b) Each Rightsholder agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Registration Statement hereunder.

6. Expenses of Registration. The Company shall pay the expenses incurred by it in complying with its obligations under this Agreement, including all registration and filing fees, exchange listing fees, fees and expenses of counsel for the Company, and fees and expenses of accountants for the Company, but excluding (a) any brokerage fees, selling commissions or underwriting discounts incurred by the Rightsholders in connection with sales under the Registration Statement and (b) the fees and expenses of any counsel retained by Rightsholders.

7. Indemnification and Contribution.

(a) In the event of any registration of any of the Registrable Securities under the Securities Act pursuant to this Agreement, the Company will indemnify and hold harmless each Rightsholder, each of its officers, directors and partners, and each underwriter of such Registrable Securities, if any, and each other person, if any, who controls such Rightsholder or underwriter within the meaning of the Securities Act or the Exchange Act against any and all losses, claims, damages or liabilities, joint or several, to which such Rightsholder, underwriter or controlling person may become subject under the Securities Act, the Exchange Act, state securities or Blue Sky laws or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement, registering such Registrable Securities, any preliminary prospectus or final prospectus contained in such Registration Statement, or any amendment or supplement to such Registration Statement or (ii) the omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading; and the Company will reimburse such Rightsholder, underwriter and each such controlling person for any legal or any other expenses reasonably incurred by such Rightsholder, underwriter or controlling person in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of or is based upon any untrue statement or omission made in such Registration Statement, preliminary prospectus or final prospectus, or any such amendment or supplement, in reliance upon and in conformity with information furnished to the Company by or on behalf of such Rightsholder, underwriter or controlling person and stated to be specifically for use in connection with such Registration Statement; and provided further that the foregoing indemnity agreement is subject to the condition that, insofar as it relates to any untrue statement, alleged untrue statement, omission or alleged omission made in any Registration Statement, prospectus or amendment or supplement that was eliminated, remedied or cured by the Company, such indemnity agreement shall not inure to the benefit of any Rightsholder from whom the Person asserting any loss, claim, damage or liability purchased the Registrable Securities if a copy of the Registration Statement, prospectus, amendment or supplement was provided by the Company to the Rightsholder but was not given or sent to such Person by the Rightsholder prior to written confirmation of such sale.

(b) Each Rightsholder, severally and not jointly, will indemnify and hold harmless the Company, each of its directors and officers and each underwriter (if any) and each

person, if any, who controls the Company or any such underwriter within the meaning of the Securities Act or the Exchange Act, against any losses, claims, damages or liabilities, joint or several, to which the Company, such directors and officers, underwriter or controlling person may become subject under the Securities Act, Exchange Act, state securities or Blue Sky laws or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect

thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of a material fact contained in such Registration Statement, any preliminary prospectus or final prospectus contained in such Registration Statement, or any amendment or supplement to such Registration Statement, or (ii) any omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, if and to the extent (and only to the extent) that the statement or omission was made in reliance upon and in conformity with written information relating to such Rightsholder furnished to the Company by such Rightsholder and stated to be specifically for use in connection with such Registration Statement, prospectus, amendment or supplement; provided, however, that the obligations of a Rightsholder hereunder shall be limited to an amount equal to the net proceeds to such Rightsholder of Registrable Securities sold in connection with such registration.

(c) Each Indemnified Party shall give notice to the Indemnifying Party promptly after such Indemnified Party has actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party to assume the defense of any such claim or any litigation resulting therefrom; provided, that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be approved by the Indemnified Party (whose approval shall not be unreasonably withheld, conditioned or delayed); and, provided, further, that the failure of any Indemnified Party to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this Section 7 except to the extent that the Indemnifying Party is adversely affected by such failure. The Indemnified Party may participate in such defense at such party's expense; provided, however, that the Indemnifying Party shall pay such expense if the Indemnified Party reasonably concludes based upon written advice of its counsel that representation of such Indemnified Party by the counsel retained by the Indemnifying Party would be inappropriate due to actual or potential differing interests between the Indemnified Party and any other party represented by such counsel in such proceeding; provided further that in no event shall the Indemnifying Party be required to pay the expenses of more than one law firm per jurisdiction as counsel for the Indemnified Party. The Indemnifying Party also shall be responsible for the expenses of such defense if the Indemnifying Party does not elect to assume such defense. No Indemnifying Party, in the defense of any such claim or litigation shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect of such claim or litigation, and no Indemnified Party shall consent to entry of any judgment or settle such claim or litigation without the prior written consent of the Indemnifying Party, which consent shall not be unreasonably withheld, conditioned or delayed.

(d) In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in this Section 7 is due in accordance with its terms but for any reason is held to be unavailable to an Indemnified Party in respect to any losses, claims, damages and liabilities referred to herein, then the Indemnifying Party shall, in lieu of indemnifying such Indemnified Party, contribute to the amount paid or payable by such

Indemnified Party as a result of such losses, claims, damages or liabilities to which such party may be subject in such proportion as is appropriate to reflect the relative fault of the Company on the one hand and the Rightsholders on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative fault of the Company and the Rightsholders shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of material fact related to information supplied by the Company or the Rightsholders and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Rightsholders agree that it would not be just and equitable if contribution pursuant to this Section 7(d) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above. Notwithstanding the provisions of this Section 7(d), (i) in no case shall any one Rightsholder be liable or responsible for any amount in excess of the gross proceeds received by such Rightsholder from the offering of Registrable Securities and (ii) the Company shall be liable and responsible for any amount in excess of such proceeds; provided, however, that no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to

contribution from any person who was not guilty of such fraudulent misrepresentation. Any party entitled to contribution will, promptly after receipt of notice of commencement of any action, suit or proceeding against such party in respect of which a claim for contribution may be made against another party or parties under this Section 7(d), notify such party or parties from whom contribution may be sought, but the omission so to notify such party or parties from whom contribution may be sought shall not relieve such party from any other obligation it or they may have thereunder or otherwise under this Section 7(d) except to the extent that the party or parties from whom contribution may be sought are adversely affected. No party shall be liable for contribution with respect to any action, suit, proceeding or claim settled without its prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed.

8. Reporting. With a view to making available to the Rightsholders the benefits of Rule 144 promulgated under the Securities Act or any other similar rule or regulation of the Commission that may at any time permit the Rightsholders to sell securities of the Company to the public without registration ("Rule 144"), for so long as Rightsholders continue to own Registrable Securities, the Company shall use its reasonable efforts to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144, and file with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act; and

(b) furnish to each Rightsholder, for so long as such Rightsholder owns Registrable Securities, promptly upon request, (i) a written statement by the Company, if true, that it has complied with the applicable reporting requirements of Rule 144, the Securities Act and the Exchange Act, (ii) a copy of the most recent annual or quarterly report of the Company and (iii) such other information as may be reasonably requested to permit the Rightsholders to sell such securities pursuant to Rule 144 without registration.

9. Assignment of Registration Rights. The rights under this Agreement shall not be assigned by any Rightsholder except in connection with the transfer of Registrable Securities by

such Rightsholder to an affiliate of such Rightsholder, provided that (i) the Rightsholder agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company; (ii) the Company is furnished with written notice of (a) the name and address of such transferee or assignee, and (b) the securities with respect to which such rights are being transferred or assigned; (iii) at or before the time the Company receives the written notice contemplated by clause (ii) of this sentence, the transferee or assignee agrees in writing with the Company to be bound by all of the obligations of an Rightsholder under this Agreement; and (iv) such transfer shall have been conducted in accordance with all applicable federal and state securities laws.

10. Amendment of Registration Rights.

(a) Any provision of this Agreement may be amended and the observance of any provision of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and Rightsholders who then hold at least a majority of the Registrable Securities. Any amendment or waiver effected in accordance with this Section 10 shall be binding upon each Rightsholder and the Company. No such amendment shall be effective to the extent that it applies to less than all of the holders of the Registrable Securities. No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any of this Agreement unless the same consideration also is offered to all of the parties to this Agreement.

(b) In the event that the Company issues and sells Notes as part of the Offering after the date hereof, the Company shall have the right to amend this Agreement without the consent of the Rightsholders to include the purchasers of such Notes in this Agreement as Purchasers and Rightsholders and any placement agent or selected dealer that receives warrants in connection with the sale of such Notes as an Agent and Rightsholder and in connection therewith to modify the Schedule of Purchasers to include such Purchaser and the Agent Schedule to include such Agent.

11. Miscellaneous.

(a) A Person is deemed to be a holder of Registrable Securities whenever such Person owns or is deemed to own of record such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two or more Persons with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from the record owner of such Registrable Securities.

(b) Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile; or (iii) two (2) Business Days after deposit with a reputable overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

If to the Company:

Hybridon, Inc.
345 Vassar Street
Cambridge, MA 02139-4818
Telephone: 617-679-5500
Facsimile: 617-679-5592
Attention: Chief Financial Officer

with a copy to:

Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109
Telephone: 617-526-6000
Facsimile: 617-526-5000
Attention: David E. Redlick, Esq.

If to a Rightsholder, to its address and facsimile number set forth on the Schedule of Purchasers or on the Agent Schedule, as the case may be, or to such other address and/or facsimile number and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party five (5) days prior to the effectiveness of such change.

Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine containing the time, date, recipient facsimile number and an image of the first page of such transmission, or (C) provided by a courier or overnight courier service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a reputable overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(c) Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

(d) All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of Delaware, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Delaware or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Delaware.

(e) This Agreement and the documents referenced herein constitute the entire agreement among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement and the documents referenced herein supersede all prior agreements and understandings among the parties hereto with respect to the subject matter hereof.

(f) Subject to the requirements of Section 9 of this Agreement, this Agreement shall inure to the benefit of and be binding upon the permitted successors and assigns of each of the parties hereto.

(g) The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(h) This Agreement may be executed in identical counterparts, each of which shall be deemed an original but all of which shall constitute one and the same agreement. This Agreement, once executed by a party, may be delivered to the other parties hereto by facsimile transmission of a copy of this Agreement bearing the signature of the party so delivering this Agreement.

(i) Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(j) All consents and other determinations required to be made by the Rightsholders pursuant to this Agreement shall be made, unless otherwise specified in this Agreement, by Rightsholders holding at least a majority of the Registrable Securities.

(k) The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent and no rules of strict construction will be applied against any party.

(l) This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF, the parties have caused this Registration Rights Agreement to be duly executed as of the day and year first above written.

COMPANY:

HYBRIDON, INC.

By: /s/ R. Andersen

Name: R.G. Andersen
Title: CFO

PURCHASERS:

Counterpart signature pages attached.

AGENT:

Counterpart signature pages attached.

Exhibit A

Schedule of Purchasers

Name and Address	Registrable Securities
Abdel Raouf M. Abou Anza	89,888
Hyb Invest I ApS	898,876

Optima Life Sciences Limited	3,486,236
Saleh Abdullah Alattas	1,179,775

Exhibit B

Agent Schedule

Name and Address	Registrable Securities
Pillar Investments Limited	565,478

Exhibit 10.9

THIS WARRANT AND THE WARRANT SHARES SHALL NOT BE SOLD OR TRANSFERRED EXCEPT (A) IN ACCORDANCE WITH THE PROVISIONS OF REGULATION S UNDER THE SECURITIES ACT OF 1933, (B) PURSUANT TO REGISTRATION UNDER THE SECURITIES ACT OF 1933 OR (C) PURSUANT TO AN AVAILABLE EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933. HEDGING TRANSACTIONS INVOLVING THIS WARRANT AND THE WARRANT SHARES MAY NOT BE CONDUCTED UNLESS IN COMPLIANCE WITH THE SECURITIES ACT OF 1933.

THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUED UPON ITS EXERCISE ARE SUBJECT TO THE RESTRICTIONS ON TRANSFER SET FORTH IN SECTION 5 OF THIS WARRANT

Warrant No. 2005-1 Number of Shares: 565,478 (subject to adjustment)

Date of Issuance: May 24, 2005

HYBRIDON, INC.

Common Stock Purchase Warrant

(Void after May 24, 2010)

Hybridon, Inc., a Delaware corporation (the "Company"), for value received, hereby certifies that Pillar Investments Limited, or its registered assigns (the "Registered Holder"), is entitled, subject to the terms and conditions set forth below, to purchase from the Company, at any time, or from time to time, on or after May 24, 2005 and on or before 5:00 p.m. (Boston time) on May 24, 2010, 565,478 shares of Common Stock, $0.001 par value per share, of the Company ("Common Stock"), at a purchase price of $0.89 per share. The shares purchasable upon exercise of this Warrant, and the purchase price per share, each as adjusted from time to time pursuant to the provisions of this Warrant, are hereinafter referred to as the "Warrant Shares" and the "Purchase Price," respectively.

1. Exercise.

(a) Exercise Process. The Registered Holder may, at its option, elect to exercise this Warrant, in whole or in part and at any time, or from time to time, by surrendering this Warrant, with the purchase form appended hereto as Exhibit I duly executed by or on behalf of the Registered Holder, at the principal office of the Company, or at such other office or agency as the Company may designate, accompanied by payment in full, in lawful money of the United States, of the Purchase Price payable in respect of the number of Warrant Shares purchased upon such exercise.

(b) Exercise Date. Each exercise of this Warrant shall be deemed to have been effected immediately prior to the close of business on the day on which this Warrant shall have been surrendered to the Company as provided in subsection 1(a) above (the "Exercise Date"). At such time, the person or persons in whose name or names any certificates for Warrant Shares shall be issuable upon such exercise as provided in subsection 1(c) below shall be deemed

to have become the holder or holders of record of the Warrant Shares represented by such certificates.

(c) Issuance of Common Stock Certificates. As soon as practicable after the exercise of this Warrant in whole or in part, and in any event within 10 days thereafter, the Company, at its expense, will cause to be issued in the name of, and delivered to, the Registered Holder, or as the Registered Holder (upon payment by the Registered Holder of any applicable transfer or withholding taxes) may direct:

(i) a certificate or certificates for the number of full Warrant Shares to which the Registered Holder shall be entitled upon such exercise plus, in lieu of any fractional share to which the Registered Holder would otherwise be entitled, cash in an amount determined pursuant to Section 3 hereof; and

(ii) in case such exercise is in part only, a new warrant or warrants (dated the date hereof) of like tenor, calling in the aggregate on the face or faces thereof for the number of Warrant Shares equal (without giving effect to any adjustment therein) to the number of such shares called for on the face of this Warrant minus the number of Warrant Shares for which this Warrant was so exercised.

(d) Exercise by Non-U.S. Person. It shall be a condition to the exercise of this Warrant by a Registered Holder that is not a U.S. Person (as defined under the Securities Act of 1933, as amended (the "Securities Act")) that such Registered Holder certify in writing to the Company that it is not a U.S. Person and that this Warrant is not being exercised on behalf of a U.S. Person.

2. Adjustments.

(a) Adjustment for Stock Splits and Combinations. If the Company shall at any time, or from time to time after the date on which this Warrant was first issued (or, if this Warrant was issued upon partial exercise of, or in replacement of, another warrant of like tenor, then the date on which such original warrant was first issued) (either such date being referred to as the "Original Issue Date") effect a subdivision of the outstanding Common Stock, the Purchase Price then in effect immediately before that subdivision shall be proportionately decreased. If the Company shall at any time, or from time to time, after the Original Issue Date combine the outstanding shares of Common Stock, the Purchase Price then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(b) Adjustment for Certain Dividends and Distributions. In the event the Company at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Purchase Price then in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the

close of business on such record date, by multiplying the Purchase Price then in effect by a fraction:

(i) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(ii) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

provided, however, that if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Purchase Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Purchase Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends or distributions.

(c) Adjustment in Number of Warrant Shares. When any adjustment is required to be made in the Purchase Price pursuant to subsections 2(a) or 2(b) above, the number of Warrant Shares purchasable upon the exercise of this Warrant shall be changed to the number determined by dividing (i) an amount equal to the number of shares issuable upon the exercise of this Warrant immediately prior to such adjustment, multiplied by the Purchase Price in effect immediately prior to such adjustment, by (ii) the Purchase Price in effect immediately after such adjustment.

(d) Adjustments for Other Dividends and Distributions. In the event the Company at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Company (other than shares of Common Stock) or in cash or other property (other than regular cash dividends paid out of earnings or earned surplus, determined in accordance with generally accepted accounting principles), then and in each such event provision shall be made so that the Registered Holder shall receive upon exercise hereof, in addition to the number of shares of Common Stock issuable hereunder, the kind and amount of securities of the Company, cash or other property which the Registered Holder would have

been entitled to receive had this Warrant been exercised on the date of such event and had the Registered Holder thereafter, during the period from the date of such event to and including the Exercise Date, retained any such securities receivable during such period, giving application to all adjustments called for during such period under this Section 2 with respect to the rights of the Registered Holder.

(e) Adjustment for Reorganization. If there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Company in which the Common Stock is converted into or exchanged for securities, cash or other property (other than a transaction covered by subsections 2(a), 2(b) or 2(d)) (collectively, a "Reorganization"), then, following such Reorganization, the Registered Holder shall receive upon exercise hereof the kind and amount of securities, cash or other property which the Registered Holder would have been

entitled to receive pursuant to such Reorganization if such exercise had taken place immediately prior to such Reorganization. In any such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Company (the "Board")) shall be made in the application of the provisions set forth herein with respect to the rights and interests thereafter of the Registered Holder, to the end that the provisions set forth in this Section 2 (including provisions with respect to changes in and other adjustments of the Purchase Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities, cash or other property thereafter deliverable upon the exercise of this Warrant.

(f) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Purchase Price pursuant to this Section 2, the Company at its expense shall, as promptly as reasonably practicable but in any event not later than 30 days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to the Registered Holder a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property for which this Warrant shall be exercisable and the Purchase Price) and showing in detail the facts upon which such adjustment or readjustment is based. The Company shall, as promptly as reasonably practicable after the written request at any time of the Registered Holder (but in any event not later than 30 days thereafter), furnish or cause to be furnished to the Registered Holder a certificate setting forth (i) the Purchase Price then in effect and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the exercise of this Warrant.

3. Fractional Shares. The Company shall not be required upon the exercise of this Warrant to issue any fractional shares, but shall pay the value thereof to the Registered Holder in cash on the basis of the Fair Market Value per share of Common Stock. The "Fair Market Value" per share of Common Stock shall be determined as follows:

(a) If the Common Stock is listed on a national securities exchange, the Nasdaq National Market, the Nasdaq SmallCap Market, the OTC Bulletin Board or another nationally recognized trading system as of the Exercise Date, the Fair Market Value per share of Common Stock shall be deemed to be the average of the high and low reported sale prices per share of Common Stock thereon for the five consecutive trading day period immediately preceding the Exercise Date; provided that if the Common Stock is not so listed during such period, the Fair Market Value per share of Common Stock shall be determined pursuant to clause 3(b).

(b) If the Common Stock is not listed on a national securities exchange, the Nasdaq National Market, the Nasdaq SmallCap Market, the OTC Bulletin Board or another nationally recognized trading system as of the Exercise Date, the Fair Market Value per share of Common Stock shall be deemed to be the amount most recently determined by the Board or an authorized committee of the Board to represent the fair market value per share of the Common Stock (including without limitation a determination for purposes of granting Common Stock options or issuing Common Stock under any plan, agreement or arrangement with employees of the Company).

4. Redemption of Warrants.

(a) Subject to the terms of this Section 4, the Company shall have the right to redeem this Warrant for a redemption price (the "Redemption Price") equal to the result obtained by multiplying (i) $0.01 by (ii) the number of Warrant Shares that the Registered Holder is entitled to purchase upon exercise of this Warrant immediately prior to the termination of this Warrant under Section 4(d) below (such Redemption Price being subject to adjustment for stock splits, stock dividends, combinations, recapitalizations, reclassifications, and similar transactions affecting the Common Stock).

(b) The Company shall exercise this redemption right by providing at least 30 days' prior written notice to the Registered Holder of such redemption (the "Redemption Notice"). Such Redemption Notice shall be provided to the Registered Holder in accordance with Section 10 of this Warrant. The Redemption Notice shall specify the time, manner and place of redemption, including without limitation the date on which this Warrant shall be redeemed (the "Redemption Date") and the Redemption Price payable to the Registered Holder (assuming that this Warrant is not exercised on or prior to the Redemption Date).

(c) Notwithstanding the foregoing, the Company may not redeem this Warrant or provide the Redemption Notice to the Registered Holder unless the closing sales price of the Common Stock on each day of a 20 consecutive trading day period ending within 30 days prior to the date the Company provides the Redemption Notice to the Registered Holder is greater than or equal to $1.78 (subject to adjustment for stock splits, stock dividends, combinations, recapitalizations, reclassifications, and similar transactions affecting the Common Stock); provided, however, that the Company may not redeem this Warrant or provide the Redemption Notice on or before November 24, 2005.

(d) This Warrant shall cease to be exercisable and shall be terminated and of no further force or effect effective at 5:00 p.m. (Boston Time) on the Redemption Date. If the Registered Holder does not exercise this Warrant on or prior to the Redemption Date, the Registered Holder shall surrender this Warrant to the Company on the Redemption Date for cancellation. From and after the Redemption Date, the Registered Holder's sole right hereunder shall be to receive the Redemption Price, without interest, upon presentation and surrender of this Warrant for cancellation.

5. Transfers, etc.

(a) Neither this Warrant nor the Warrant Shares shall be sold or transferred unless either (i) they first shall have been registered under the Securities Act, or (ii) the Company first shall have been furnished with an opinion of legal counsel, reasonably satisfactory to the Company, to the effect that such sale or transfer is exempt from the registration requirements of the Securities Act. Notwithstanding the foregoing, no registration or opinion of counsel shall be required for a transfer made in accordance with Rule 144 under the Securities Act.

(b) Each certificate representing Warrant Shares shall bear a legend substantially in the following form:

> "The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended, and may not be offered,

> sold or otherwise transferred, pledged or hypothecated unless and until such securities are registered under such Act or an opinion of counsel satisfactory to the Company is obtained to the effect that such registration is not required."

The foregoing legend shall be removed from the certificates representing any Warrant Shares, at the request of the holder thereof, at such time as they become eligible for resale pursuant to Rule 144(k) under the Securities Act.

(c) In the case of a Registered Holder that is a non-U.S. Person:

(i) THIS WARRANT AND THE WARRANT SHARES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 AND THIS WARRANT MAY NOT BE EXERCISED BY OR ON BEHALF OF A U.S. PERSON UNLESS REGISTERED UNDER THE SECURITIES ACT OF 1933 OR AN EXEMPTION FROM SUCH REGISTRATION IS AVAILABLE.

(ii) This Warrant and the Warrant Shares shall not be sold or transferred except (A) in accordance with the provisions of Regulation S under the Securities Act, (B) pursuant to registration under the Securities Act or (C) pursuant to an available exemption from registration under the Securities Act. Hedging transactions involving this Warrant and the Warrant Shares may not be conducted unless in compliance with the Securities Act.

(iii) Notwithstanding Section 5(b) to the contrary, each certificate representing Warrant Shares issued to a Registered Holder that is a non-U.S. Person shall bear a legend substantially in the following form:

> "These shares have not been registered under the Securities Act of 1933. They may not be offered or transferred by sale, assignment, pledge or otherwise unless (i) a registration statement for the shares under the Securities Act of 1933 is in effect or (ii) the corporation has received an opinion of counsel, which opinion is satisfactory to the corporation, to the effect that such registration is not required under the Securities Act of 1933 or (iii) such offer or transfer is made in accordance with the provisions of Regulation S under the Securities Act of 1933. Hedging transactions involving these shares may not be conducted unless in compliance with the Securities Act of 1933."

(d) The Company will maintain a register containing the name and address of the Registered Holder of this Warrant. The Registered Holder may change its address as shown on the warrant register by written notice to the Company requesting such change.

(e) Notwithstanding Section 5(a) above, a Registered Holder which is an entity may transfer this Warrant, in whole, to a wholly owned subsidiary of such entity, a Registered Holder which is a partnership may transfer this Warrant, in whole, to a partner of such partnership or a retired partner of such partnership or to the estate of any such partner or retired partner, a Registered Holder which is a limited liability company may transfer this Warrant, in whole, to a member of such limited liability company or a retired member or to the

estate of any such member or retired member and a Registered Holder who is an individual may transfer this Warrant, in whole, to such individual's spouse, children, parents, siblings, grandchildren or any trust established exclusively for the benefit of one or more of the foregoing individuals, or by will or the laws of descent and distribution (in each case, a "Permitted Transferee"). This Warrant and all rights hereunder are transferable to a Permitted Transferee, in whole, upon surrender of this Warrant with a properly executed assignment (in the form of Exhibit II hereto) at the principal office of the Company (or, if another office or agency has been designated by the Company for such purpose, then at such other office or agency).

6. No Impairment. The Company will not, by amendment of its charter or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such action as may be necessary or appropriate in order to protect the rights of the Registered Holder against impairment.

7. Notices of Record Date, etc. In the event:

(a) the Company shall take a record of the holders of its Common Stock (or other stock or securities at the time deliverable upon the exercise of this Warrant) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of stock of any class or any other securities, or to receive any other right; or

(b) of any capital reorganization of the Company, any reclassification of the Common Stock of the Company, any consolidation or merger of the Company with or into another corporation (other than a consolidation or merger in which the Company is the surviving entity and its Common Stock is not converted into or exchanged for any other securities or property), or any transfer of all or substantially all of the assets of the Company; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company,

then, and in each such case, the Company will send or cause to be sent to the Registered Holder a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other stock or securities at the time deliverable upon the exercise of this Warrant) shall be entitled to exchange their shares of Common Stock (or such other stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up. Such notice shall be sent at least 10 days prior to the record date or effective date for the event specified in such notice.

8. Reservation of Stock. The Company will at all times reserve and keep available, solely for issuance and delivery upon the exercise of this Warrant, such number of Warrant

Shares and other securities, cash and/or property, as from time to time shall be issuable upon the exercise of this Warrant.

9. Exchange or Replacement of Warrants.

(a) Upon the surrender by the Registered Holder, properly endorsed, to the Company at the principal office of the Company, the Company will, subject to the provisions of Section 5 hereof, issue and deliver to or upon the order of the Registered Holder, at the Company's expense, a new Warrant or Warrants of like tenor, in the name of the Registered Holder or as the Registered Holder (upon payment by the Registered Holder of any applicable transfer taxes) may direct, calling in the aggregate on the face or faces thereof for the number of shares of Common Stock (or other securities, cash and/or property) then issuable upon exercise of this Warrant.

(b) Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and (in the case of loss, theft or destruction) upon delivery of an indemnity agreement (with surety if reasonably required) in an amount reasonably satisfactory to the Company, or (in the case of mutilation) upon surrender and cancellation of this Warrant, the Company will issue, in lieu thereof, a new Warrant of like tenor.

10. Notices. All notices and other communications from the Company to the Registered Holder in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable overnight courier service to the address last furnished to the Company in writing by the Registered Holder. All notices and other communications from the Registered Holder to the Company in connection herewith shall be mailed by certified or registered mail, postage prepaid, or sent via a reputable overnight courier service to the Company at its principal office set forth below. If the Company should at any time change the location of its principal office to a place other than as set forth below, it shall give prompt written notice to the Registered Holder and thereafter all references in this Warrant to the location of its principal office at the particular time shall be as so specified in such notice. All such notices and communications shall be deemed delivered (i) two business days after being sent by certified or registered mail, return receipt requested, postage prepaid, or (ii) two business days after being sent via a reputable overnight courier service.

11. No Rights as Stockholder. Until the exercise of this Warrant, the Registered Holder shall not have or exercise any rights by virtue hereof as a stockholder of the Company. Notwithstanding the foregoing, in the event (i) the Company effects a split of the Common Stock by means of a stock dividend and the Purchase Price of and the number of Warrant Shares are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), and (ii) the Registered Holder exercises this Warrant between the record date and the distribution date for such stock dividend, the Registered Holder shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

12. Amendment or Waiver. Any term of this Warrant may be amended or waived only by an instrument in writing signed by the party against which enforcement of the change or

waiver is sought. No waivers of any term, condition or provision of this Warrant, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision.

13. Section Headings. The section headings in this Warrant are for the convenience of the parties and in no way alter, modify, amend, limit or restrict the contractual obligations of the parties.

14. Governing Law. This Warrant will be governed by and construed in accordance with the internal laws of the State of Delaware (without reference to the conflicts of law provisions thereof).

15. Facsimile Signatures. This Warrant may be executed by facsimile signature.

16. Acceptance by Registered Holder. By acquiring and accepting this Warrant, the Registered Holder shall be deemed to have agreed and accepted the terms and conditions of this Warrant.

EXECUTED as of the Date of Issuance indicated above.

HYBRIDON, INC.

By: R. Andersen

Title: CFO

EXHIBIT I

PURCHASE FORM

To: Hybridon, Inc. Dated:_____

The undersigned, pursuant to the provisions set forth in the attached Warrant (No. _____), hereby elects to purchase _____ shares of the Common Stock of Hybridon, Inc. covered by such Warrant.

The undersigned herewith makes a payment of $_____ representing the full purchase price for such shares at the price per share provided for in such Warrant.

Signature:

Address:

EXHIBIT II

ASSIGNMENT FORM

FOR VALUE RECEIVED, _____ hereby sells, assigns and transfers all of the rights of the undersigned under the attached Warrant (No. ____) with respect to all of the shares of Common Stock of Hybridon, Inc. covered thereby set forth below, unto:

Name of Assignee	Address	No. of Shares

Dated: _____ Signature: _____

Signature Guaranteed:

By: _____

The signature should be guaranteed by an eligible guarantor institution (banks, stockbrokers, savings and loan associations and credit unions with membership in an approved signature guarantee medallion program) pursuant to Rule 17Ad-15 under the Securities Exchange Act of 1934.

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO EXCHANGE ACT RULES 13a-14 AND 15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

I, Sudhir Agrawal, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Hybridon, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) [Not Applicable]

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ SUDHIR AGRAWAL

Sudhir Agrawal
Chief Executive Officer

Dated: August 5, 2005

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO EXCHANGE ACT RULES 13a-14 AND 15d-14, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

I, Robert G. Andersen certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Hybridon, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) [Not Applicable]

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ ROBERT G. ANDERSEN

Robert G. Andersen
Chief Financial Officer

Dated: August 5, 2005

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Hybridon, Inc. (the "Company") for the period ended June 30, 2005 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Sudhir Agrawal, Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to Hybridon, Inc. and will be retained by Hybridon, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

/s/ SUDHIR AGRAWAL

Sudhir Agrawal
Chief Executive Officer

Date: August 5, 2005

EXHIBIT 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Hybridon, Inc. (the "Company") for the period ended June 30, 2005 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Robert G. Andersen, Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement has been provided to Hybridon, Inc. and will be retained by Hybridon, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

/s/ ROBERT G. ANDERSEN

Robert G. Andersen
Chief Financial Officer

Date: August 5, 2005