UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): **May 22, 2017**

Idera Pharmaceuticals, Inc.
(Exact Name of Registrant as Specified in Charter)

Delaware	**001-31918**	**04-3072298**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

167 Sidney Street
Cambridge, Massachusetts 02139
(Address of principal executive offices) (Zip Code)

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

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 7.01 Regulation FD Disclosure.

On May 22, 2017, we uploaded a presentation to our website, www.iderapharma.com, discussing the state of the Company. We may rely on all or part of this presentation any time we are discussing the current state of the Company in communications with investors or at conferences. A copy of the presentation is attached to this Current Report on Form 8-K as Exhibit 99.1 (the "Slides").

By filing this Current Report on Form 8-K and furnishing the information contained herein, the Company makes no admission as to the materiality of any information in this report that is required to be disclosed solely by reason of Regulation FD.

The information contained in the Slides is summary information that is intended to be considered in the context of the Company's Securities and Exchange Commission ("SEC") filings and other public announcements that the Company may make, by press release or otherwise, from time to time. The Company undertakes no duty or obligation to publicly update or revise the information contained in this report, although it may do so from time to time as its management believes is warranted. Any such updating may be made through the filing of other reports or documents with the SEC, through press releases or through other public disclosure.

In accordance with General Instruction B.2 of this Current Report on Form 8-K, the information presented in Item 7.01 of this Current Report on Form 8-K and Exhibit 99.1 shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, unless the Company specifically states that the information is to be considered "filed" under the Exchange Act or incorporates it by reference into a filing under the Securities Act of 1933, as amended, or the Exchange Act.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

See Exhibit Index attached hereto.

SIGNATURE

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 hereunto duly authorized.

Idera Pharmaceuticals, Inc.

Date: May 22, 2017

By: /s/ Mark J. Casey
Mark J. Casey
Senior Vice President,
General Counsel and Secretary

EXHIBIT INDEX

Exhibit No.	Description
99.1	Investor presentation uploaded to Idera Pharmaceuticals, Inc. website on May 22, 2016

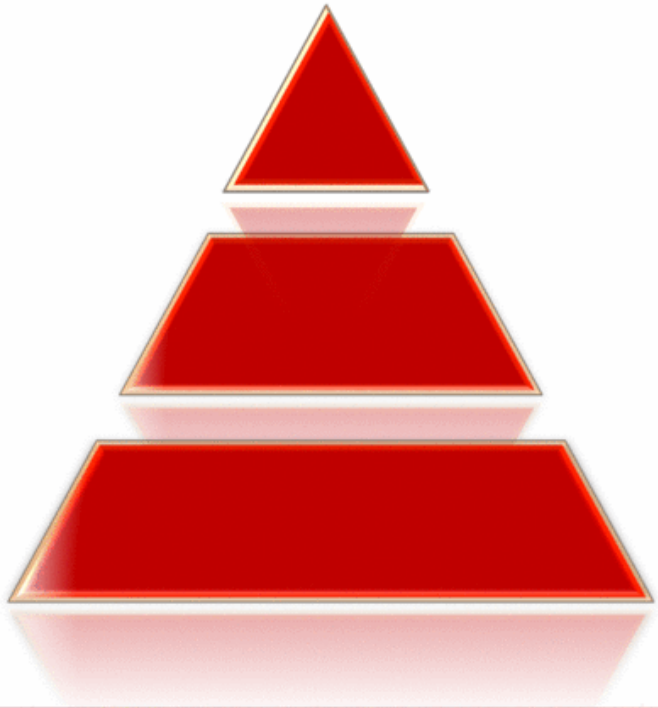
Exhibit 99.1


idera
May 2017
Corporate Overview
© 2017 Idera Pharmaceuticals

Forward Looking Statements and Other Important Cautions

- This presentation contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included or incorporated in this presentation, including statements regarding the Company's strategy, future operations, collaborations, intellectual property, cash resources, 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," "could," "should," "potential," "likely," "projects," "continue," "will," and "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Idera cannot guarantee that it will actually achieve the plans, intentions or expectations disclosed in its forward-looking statements and you should not place undue reliance on the Company's forward-looking statements. There are a number of important factors that could cause Idera's actual results to differ materially from those indicated or implied by its forward-looking statements. Factors that may cause such a difference include: whether interim results from a clinical trial will be predictive of the final results of the trial, whether results obtained in preclinical studies and clinical trials will be indicative of the results that will be generated in future clinical trials, including in clinical trials in different disease indications; whether products based on Idera's technology will advance into or through the clinical trial process on a timely basis or at all and receive approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies; whether, if the Company's products receive approval, they will be successfully distributed and marketed; and such other important factors as are set forth under the caption "Risk Factors" in the Company's Annual Report and on Form 10-K for the period ended December 31, 2016 and on Form 10-Q for the period ended March 31, 2017. Although Idera may elect to do so at some point in the future, the Company does not assume any obligation to update any forward-looking statements and it disclaims any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

Harnessing the Power of the Immune System to Develop Therapies for Unmet Diseases



Advancing Development Pipeline

Focused on serious unmet needs in Cancers & Rare Diseases

Committed to advancing patient care

idera

Injecting a New Approach to Immuno-Oncology

Activating the Tumor Microenvironment

Checkpoint inhibitor (CPI) therapeutic outcomes are dependent on the Tumor Microenvironment (TME)

- CPI immunotherapy is effective in multiple tumor types, but in a minority of patients
- It is believed that patients with non-immunogenic TME fail to respond to CPI therapy
  - Agents which block immuno-regulatory signals or activate the TME are being developed, for example
  - Activate the TME with an intratumoral agent
    - Imlygic (T-vec) has provided the proof-of-concept, and is approved for the local treatment of melanoma*
  - Use of IDO-1 inhibitor in combination with anti-PD-1 has shown encouraging results in multiple tumor types

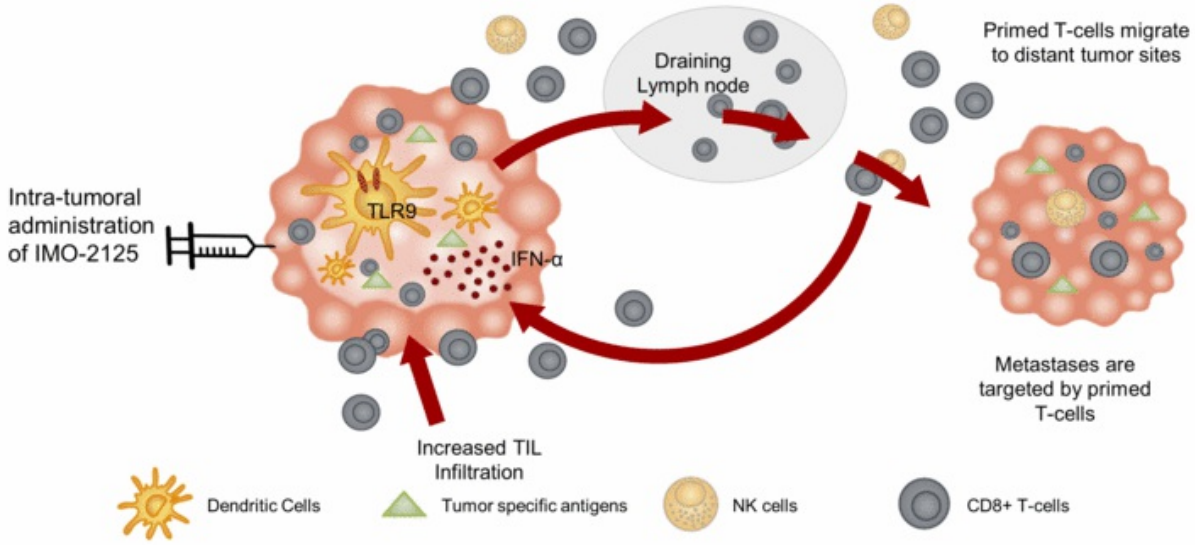
*Imlygic is indicated for the local treatment of unresectable cutaneous, subcutaneous and nodal leasions in patients with melanoma recurrent after initial surgery

IMO-2125 – A Rationally Designed TLR9 Agonist

- Our approach is to use intra-tumoral administration of a synthetic TLR9 agonist, IMO-2125 to activate the tumor microenvironment
  - TLR9 is expressed on dendritic cells and B-cells, key cells for innate and adaptive immunity
  - IMO-2125 has shown potent pre-clinical anti-tumor activity in combination with anti-CTLA4, anti-PD1, and IDO-1 inhibitor [1]
  - Use of IMO-2125 avoids oncolytic virus-associated manufacturing and safety issues

[1] Wang, D, AACR, 2016

Intra-tumoral IMO-2125 Mechanism of Action

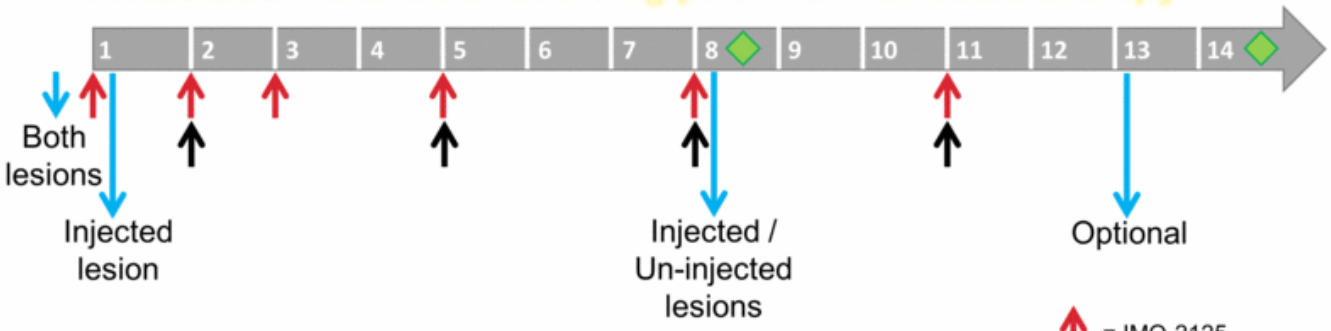


Study 204: POC of IMO-2125 with ipilimumab in PD-1 refractory metastatic melanoma patients

- Limited options available for patients with melanoma refractory to anti-PD-1 treatment make this a clear unmet medical need
  - Imlygic is not indicated in this setting
  - Ipilimumab monotherapy provides 13% ORR[1]
- IMO-2125 in combination with ipilimumab in PD-1 refractory melanoma patients, provides a fast-to-market opportunity
- Key phase 1 objectives have been achieved
  - Translational studies confirm mechanism of action of IMO-2125, laying the foundation for broad applicability
  - IMO-2125 administered with ipilimumab at escalating doses without DLT
  - 8mg dose selected for further development, with ipilimumab
  - Encouraging and durable clinical activity observed, including CR
  - Phase 2 expansion now accruing, with additional centers

[1] Long GV, SMR, 2016

Study 204: Phase 1/2 study of intra-tumoral IMO-2125 in combination with ipilimumab or pembrolizumab in patients with metastatic melanoma following prior PD-1 directed therapy



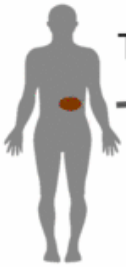
= IMO-2125

= Ipilimumab

= Biopsy

= Response Assessment

Immune response measurements

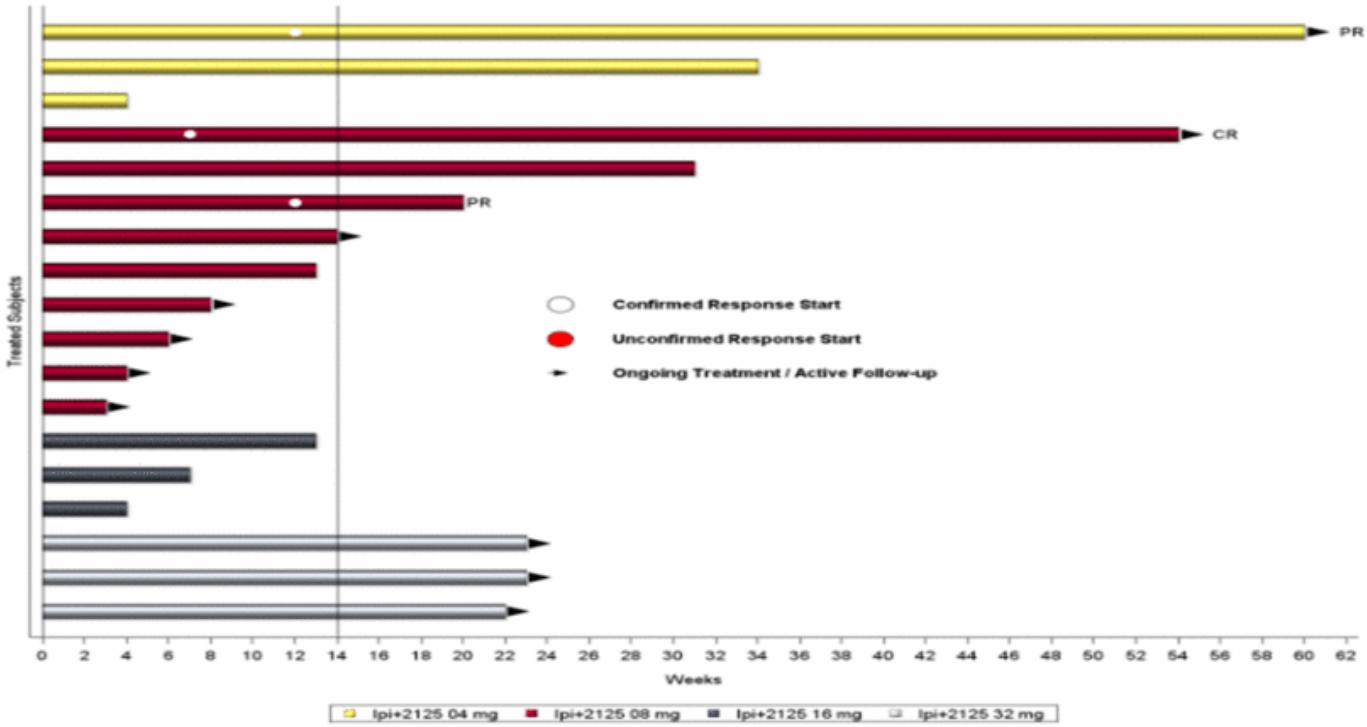


Tumor biopsy

- Formalin - IHC
- Fresh flow cytometry
  - mDC1 vs mDC2 vs pDC
  - CD8 T cell : Treg ratio
  - T cell proliferation via Ki67 of both Tregs and CD8+ T cells
  - Immune subsets ratio (T cell vs B cell vs NK cells)
- RNA (TCRseq and Nanostring)

NCT02644967

Durable Responses with Prolonged Stabilization of Disease



Time on study ends at RECIST v1.1 PD, start of new anti-cancer therapy, death, or study withdrawal.
PR in the Ipi+2125 08 mg cohort confirmed after the data cut off date.
Data cut-off date: 31MAR2017

Produced on 19MAY2017

Demonstration of Clinical and Translational Responder

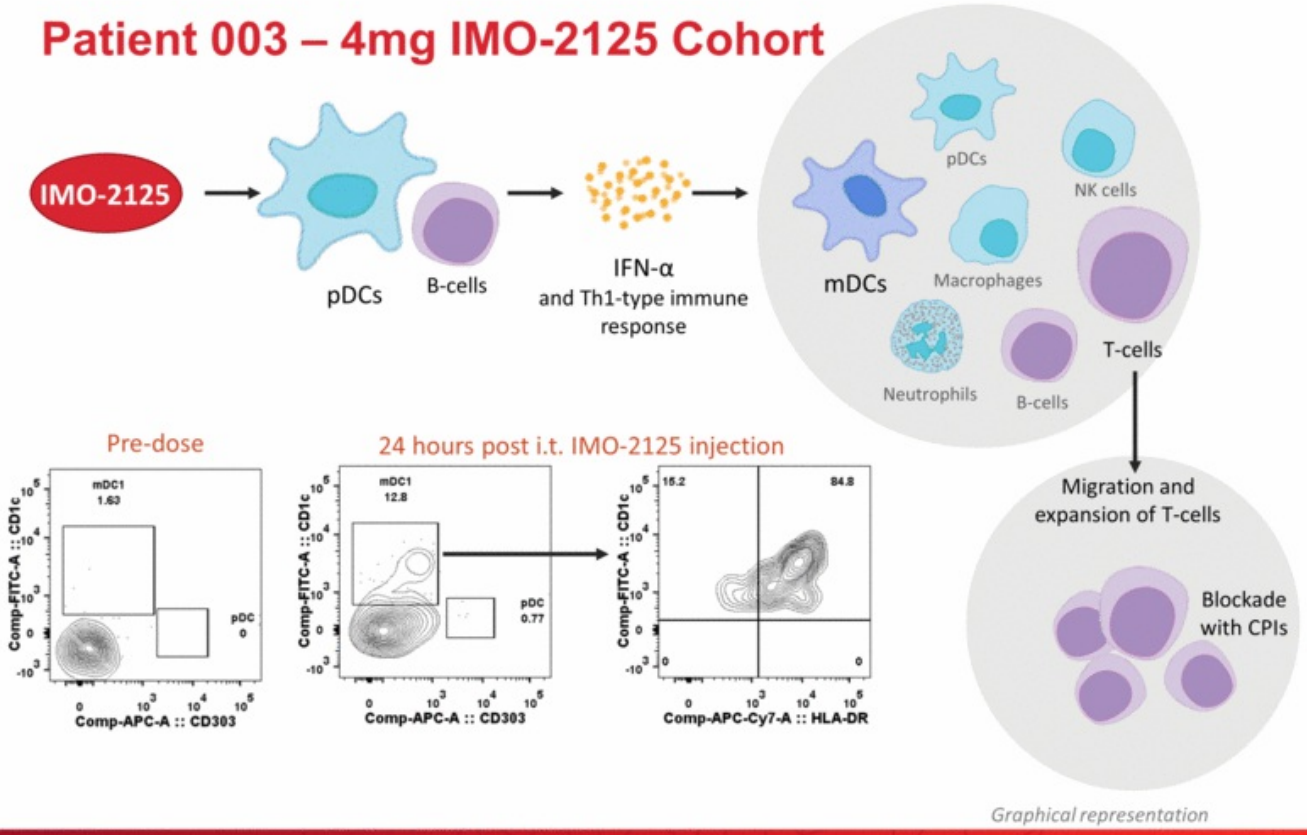
Patient 003 – 4mg IMO-2125 Cohort

- 58 y/o WM with BRAF wild-type melanoma originating base of penis
  - Metastases to inguinal lymph nodes and liver
- Rapid progression on nivolumab (4 cycles) prior to enrollment
- Received 6 doses IMO and 3 doses ipi (last one held for hypophysitis)
  - Well-known AE deemed related to ipi

Patient Remains PR Over 1 Year

DC Maturation in the Injected Tumor

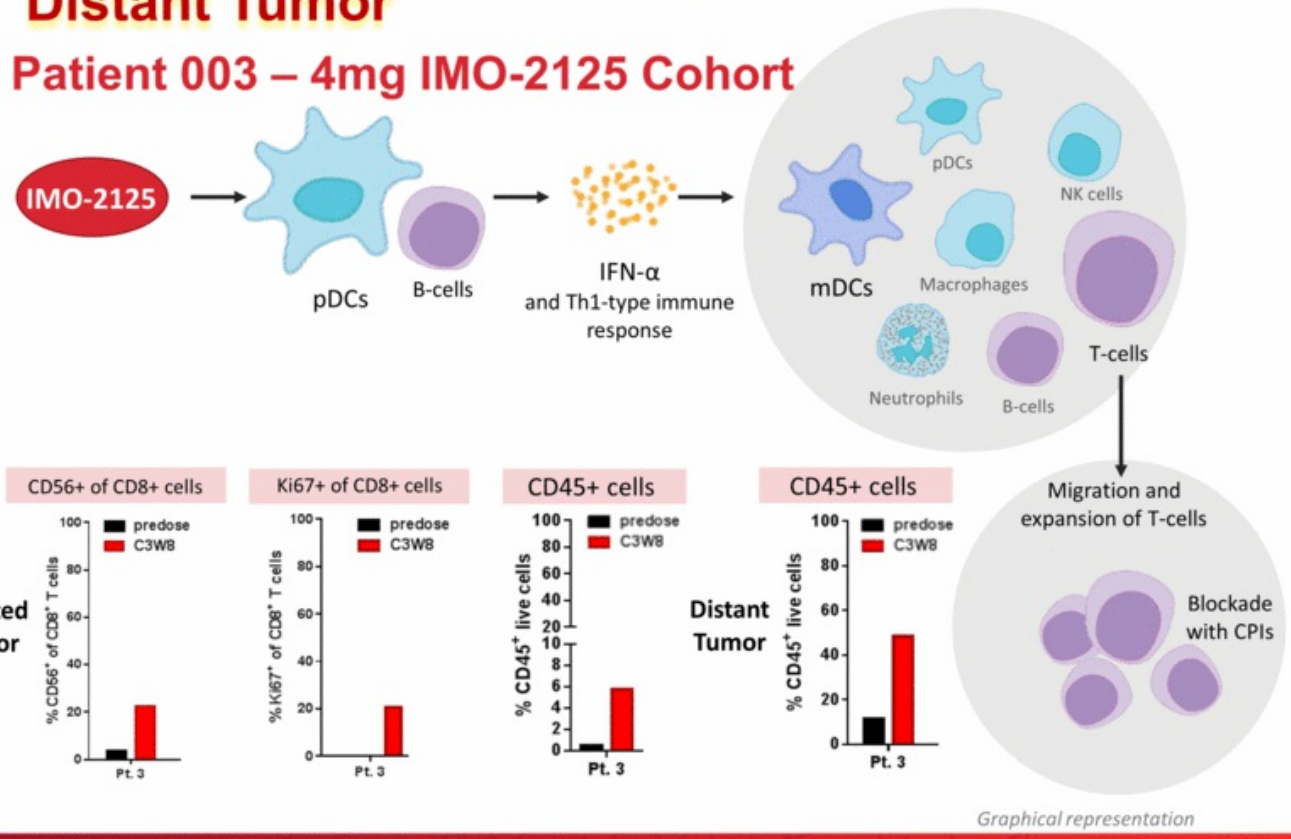
Patient 003 – 4mg IMO-2125 Cohort



Graphical representation

T-cell Activation Occurring in the Injected and Distant Tumor

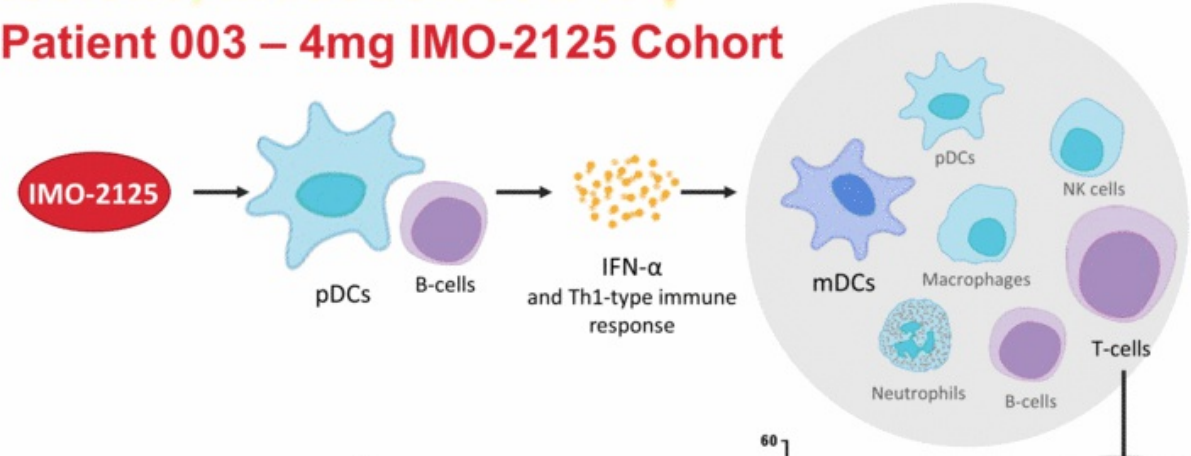
Patient 003 – 4mg IMO-2125 Cohort

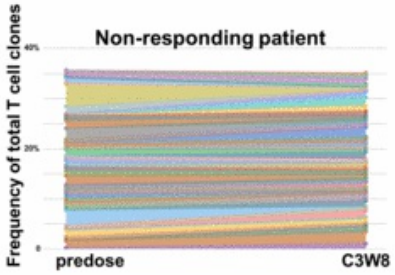


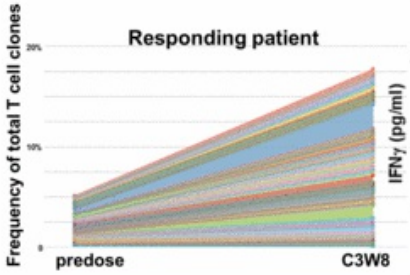
Graphical representation

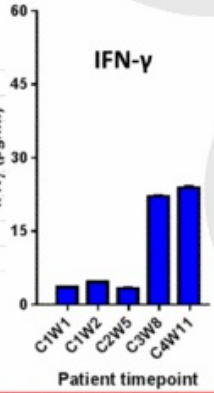
Expansion of top T-cell clones in the distant lesions, induction of IFN-γ

Patient 003 – 4mg IMO-2125 Cohort









Patient 003 Remains PR over 1 Yr.

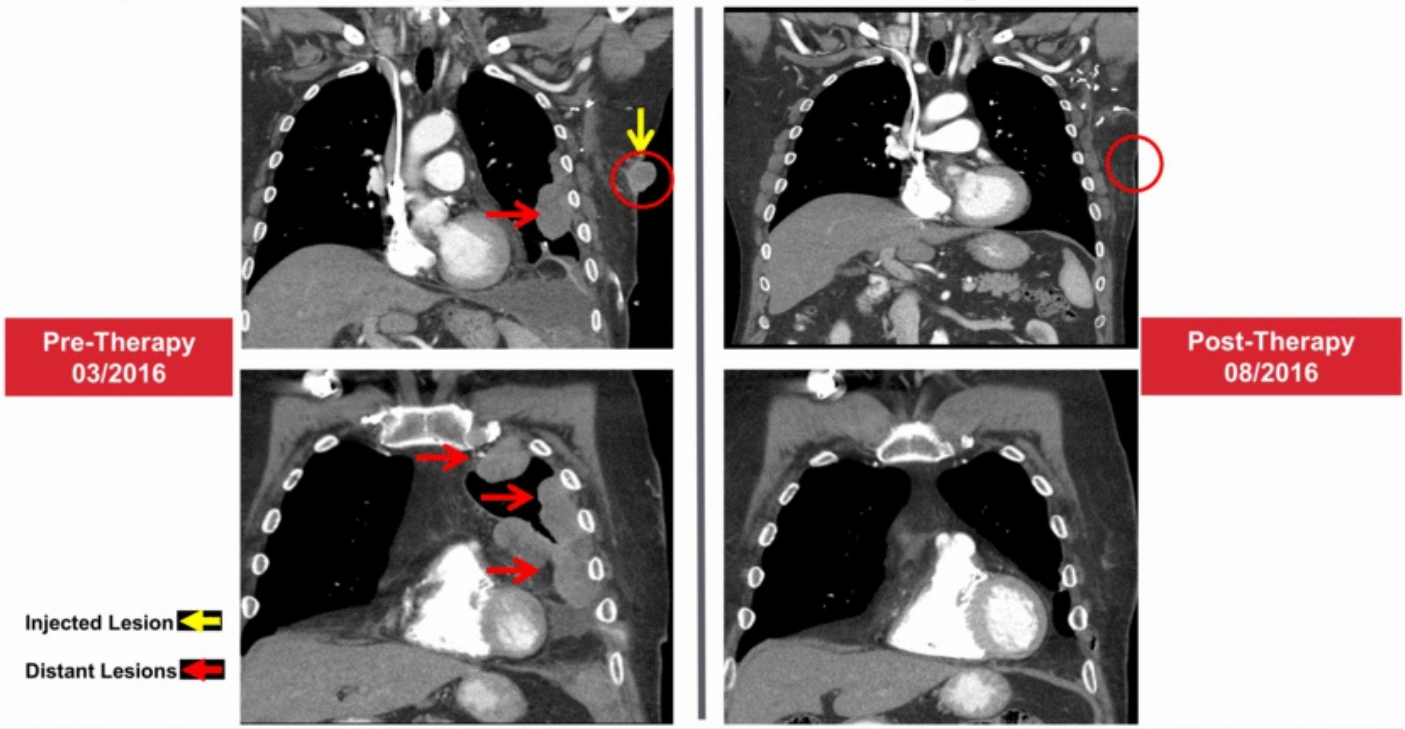
Additional Clinical Responder Case Study

Patient 004 – 8mg IMO-2125 Cohort

- 68 y/o male with BRAF wt melanoma, metastatic to lung (bulky), pleura, LN, widespread soft tissue
- Marked progression on Nivo + Urelumab (anti-4-1BB)
  - Marked progression w/ severe dyspnea
  - Referred to hospice
- Pleural effusion drained, then begun on study treatment
- Received 6 doses IMO + 4 doses ipi
- Dramatic response after 6 wks of therapy
- RECIST CR at 5 months

Tumor Imaging: Patient 004 Remains a CR at 1 Year

Ipilimumab 3mg plus i.t. IMO-2125 8 mg



IMO-2125 with ipilimumab in PD-1 Refractory Melanoma - Path Forward

- Significant clinical momentum
  - 8mg dose of IMO-2125 selected for further development with ipilimumab (April 2017)
  - Seamless initiation of phase 2 portion of study 204
    - Stage 1 futility hurdle met, now accruing to planned N=21
    - 9 patients from Phase 1 will be included in ph 2 analysis
- Regulatory interactions ongoing
  - EOP1 meeting with FDA (Q1)
- Phase 3 planning underway
- Multiple data presentations
  - ASCO-SITC February data cut presented
  - Phase 2 ORR (Overall Response Rate) data expected Q1 2018
  - Next planned data presentation – ESMO 2017 (Sep.)

IMO-2125 Beyond Melanoma

Mechanism of Action Supports Broader Expansion

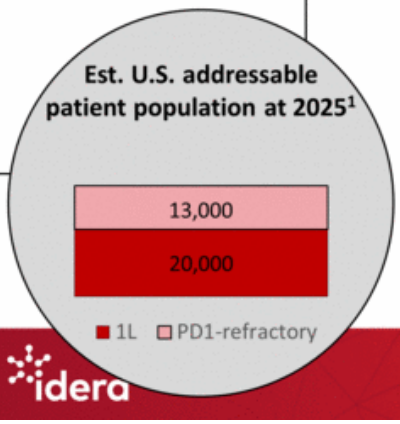
- To further capitalize in 2017 we:
  - Continue to enroll study 204 phase 1 IMO-2125/ pembrolizumab combination arm in PD1-refractory metastatic melanoma patients
  - Initiated phase 1 monotherapy trial in all-comer refractory patient population (NCT03052205)
    - Critical for registration and exploratory purposes
  - Plan to initiate phase 2 “umbrella” study – 2H
    - Multiple CPI combos, multiple tumor types
- Multiple discussions underway for potential clinical development partnerships

Long-term Expansion Opportunity Significant

INTRODUCE

Unresectable metastatic melanoma

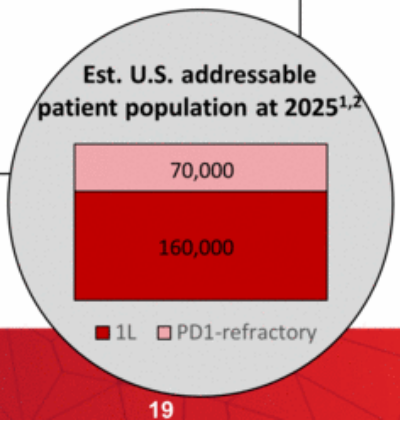
- Maturing I/O market primed for combo
- High unmet need in anti-PD1-refractory patients



EXPAND

Emerging I/O addressable tumors

- Moderate response to cornerstone anti-PD1
- Increasing number of approved settings



TRANSFORM

"Cold" tumors unaddressable with current I/O

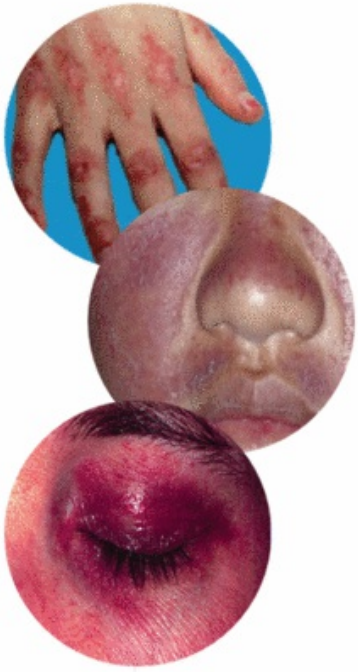
- Significant opportunity in tumors with:
  - Low mutation load
  - Low dendritic cell infiltration
- Bioinformatics research ongoing to identify attractive tumor targets

[1] Proprietary Idera Commercial Research
[2] NSCLC, head and neck, RCC and bladder only

idera

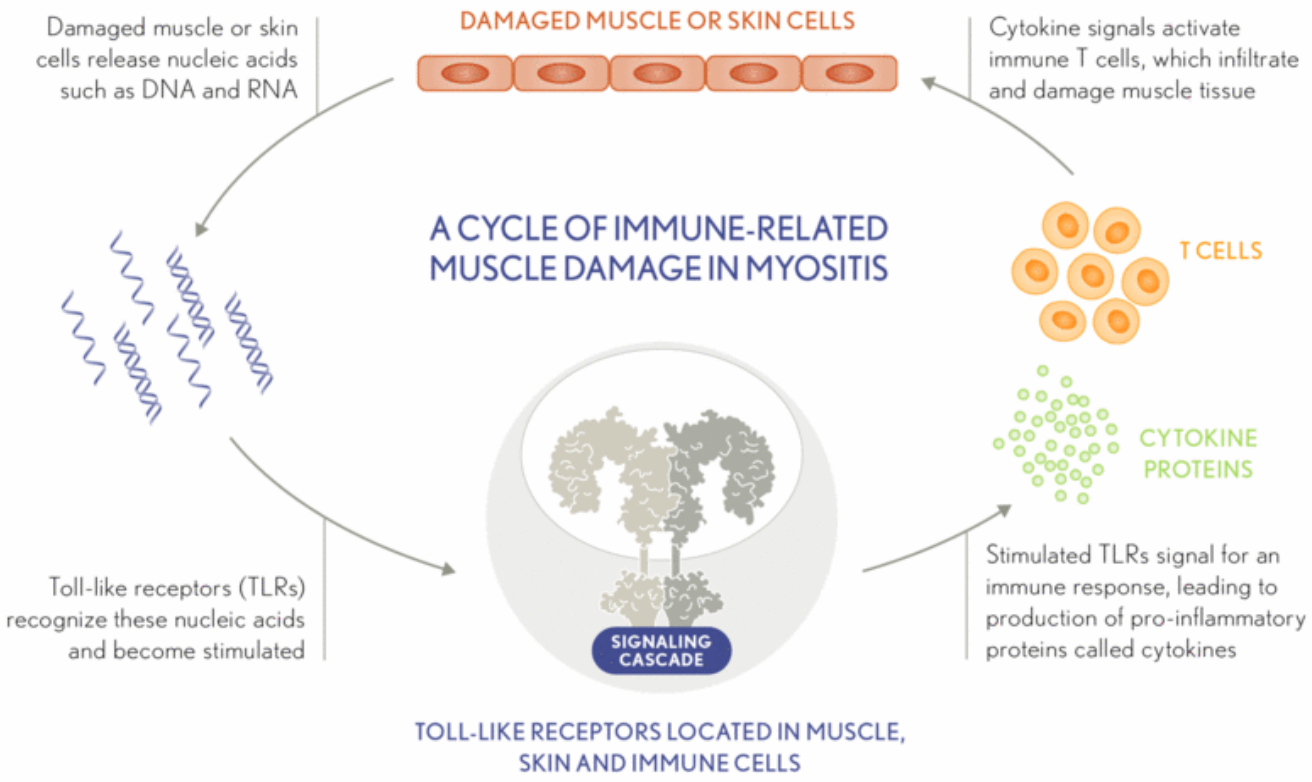
Developing a Targeted Treatment Option for Dermatomyositis with IMO-8400

Dermatomyositis (DM)



- Rare, debilitating, inflammatory condition associated with increased risk of pre-mature death
- Multisystem disorder affecting both skin and muscle
- Twice as common in women as men
- Affects roughly 25K adults in the U.S.
- Current treatments have limited efficacy and serious side effects

Toll-like Receptors in Dermatomyositis



The Role of Toll-like Receptors in DM

TLR Activation

- Certain TLRs are over-expressed in the muscles of patients with dermatomyositis

Cytokine Expression

- Expression of certain TLRs has been correlated to the expression of certain cytokines, which are proteins involved in immune signaling[1]

Disease Activity

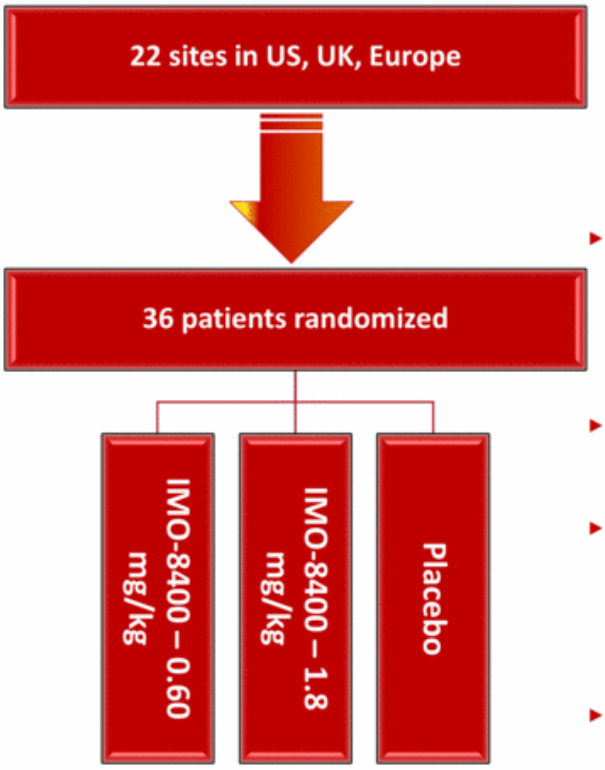
- Cytokine expression has been correlated to changes in disease activity, including the IMACS physician global assessment[2]

[1] Kim, et al. Clin Rheumatol, 2012.
[2] Reed, et al. Arthritis & Rheumatism, 2012.

IMO-8400

- IMO-8400 is a synthetic oligonucleotide-based antagonist of Toll-like receptors (TLRs) 7,8 and 9
  - IMO-8400 is designed to inhibit, or antagonize, specific TLR activity
  - Treatment is administered subcutaneously
- Clinical proof of concept previously demonstrated in clinical trial in Psoriasis
- To date, IMO-8400 has been studied in over 100 patients and has been generally well-tolerated

Trial Data Expected 1st Half of 2018



PIONEER

A PHASE 2 STUDY OF IMO-8400 IN DERMATOMYOSITIS

- **PIONEER** is a Phase 2, double-blind, placebo-controlled study for adults with dermatomyositis currently experiencing symptoms of active skin disease
- **Target Enrollment:** 36 patients through 22 sites in US, UK, and Europe (current underway)
- **Objectives:** Investigate impact of IMO-8400 on skin and muscle symptoms of disease, as well as safety and tolerability, antibody profiling, and identifying dose for further development
- **Dosing**: 1x/week, via subcutaneous injection, up to 24 weeks

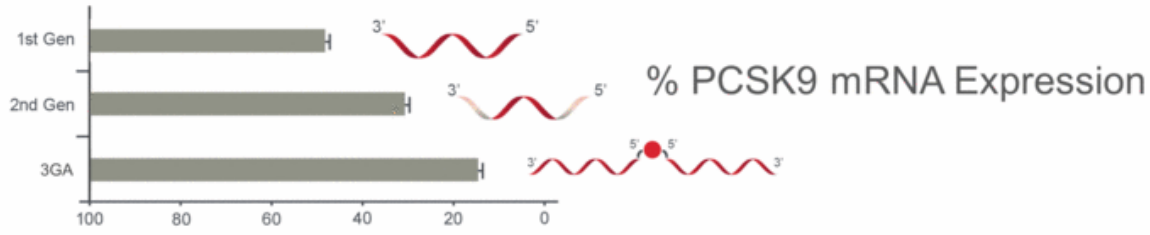
idera

- Third Generation Antisense (3GA)

Why is a better RNA-directed technology needed?

Current RNA-focused Platform Technologies Remain Flawed

- 3GA may realize the full potential of antisense technology for the treatment of diverse diseases
- 3GA designed to overcome the limitations of the first and second generation antisense technology:
  - Immunotoxicities
  - Therapeutic Index



Assays were conducted with antisense constructs in Hepa 1-6 cells; RNA levels were quantified by qPCR

3GA Development to Date

22 3GA Compounds Developed to Specific Gene Targets Across Wide Variety of Therapeutic Areas

- Therapeutic areas range across:
  - Rare diseases, oncology, autoimmune disorders, metabolic conditions, single-point mutations, etc.
- Ongoing activity ranges from cell culture through IND-enabling toxicology
- Current portfolio feeds potential for both internal development candidates and partnering opportunities

1st Clinical Candidate for Idera Development Selected

First 3GA Candidate Selected to Enter Clinic

Opportunity to Validate Technology Platform / Advance Into Late Stage Development

- For strategic and competitive purposes, Idera to withhold naming selected target until 2H 2017
  - Well-established liver Target
  - Available pre-clinical animal models
  - Well-known clinical endpoints
  - Potential for broad and rare disease applications
- Potential Value Drivers
  - Establishment of human proof of concept for platform in 2018
  - Potential differentiation from other RNA-based therapeutic platforms

PROGRAM	MECHANISM	INDICATION	COMMERCIAL RIGHTS	DISCOVERY	PHASE 1	PHASE 2	PIVOTAL
IMMUNO-ONCOLOGY	TLR9 Agonist	IMO-2125 Refractory PD-1 Metastatic Melanoma / IPI Comb.	idera			●	
		IMO-2125 Refractory PD-1 Metastatic Melanoma / PD-1 Comb.			●		
		IMO-2125 Monotherapy Additional Tumor Types			●		
		IMO-2125 Combo Additional Tumor Types – CPI Comb.			●		
RARE DISEASES	TLR 7,8,9 Antagonist	IMO-8400 Dermatomyositis	idera			●	
	3GA - Undisclosed Target	Undisclosed Rare Liver Condition			●		
	3GA-NLRP3	3GA Undisclosed Indication			●		
	3GA-DUX4	3GA Undisclosed Indication			●		
PARTNERED PROGRAMS	3GA	3GA Renal Diseases	gsk		●		
	TLR 7,8,9 Antagonist	IMO-9200 Autoimmune Diseases	Vivelix			●	

Near Term Expected Deliverables

- IMO-2125 Data Updates and Major Medical Meetings Throughout 2017
- ✓ Q1 2017 – Initiate Phase 1 IMO-2125 Monotherapy in Multiple Refractory Solid Tumors Clinical Trial
- ✓ 2H 2017 – Enroll IMO-2125 Phase 2 Expansion in Ongoing Clinical Trial
- 2H 2017 – Initiate Phase 2 IMO-2125 Combination Trial in Multiple Refractory Solid Tumors Clinical Trial
- 2H 2017 – Complete Enrollment of IMO-8400 Dermatomyositis Trial
- 2H 2017 – Announce Undisclosed 3GA Development Target and Plan
- Q1 2018 – File IND for First 3GA Compound
- Q1 2018 – Initiate and Enroll First 3GA Clinical Trial

R&D Day Planned for Second Half of 2017

Thank You

idera