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): January 7, 2019

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

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

505 Eagleview Blvd., Suite 212
Exton, Pennsylvania
(Address of Principal Executive Offices)

19341 (Zip Code)

Registrant's telephone number, including area code: (484) 348-1600

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):

- o 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).
- o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240-14d-2(b)).
- o 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 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 o

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. o

Item 7.01 Regulation FD Disclosure.

On January 7, 2019, Idera Pharmaceuticals, Inc. (the "Company") uploaded a presentation to its 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 "Presentation").

The information contained in the Presentation is summary information that is intended to be considered in the context of the Company's Securities and Exchange Commission (the "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.

The Company is furnishing the information in this Item 7.01 and the related Exhibit 99.1 filed herewith to comply with Regulation FD. Such information 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, and shall not be deemed to be incorporated by reference into any of the Company's filings under the Securities Act of 1933, as amended, whether made before or after the date hereof and regardless of any general incorporation language in such filings, except to the extent expressly set forth by specific reference in such a filing. This Item 7.01 will not be deemed an admission as to the materiality of any information herein (including Exhibit 99.1) that is required to be disclosed solely by Regulation FD.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

See the Exhibit Index below, which is incorporated by reference herein.

Exhibit Index

Exhibit No.	Exhibit Name	
99.1	Investor Presentation dated January 7, 2019.	
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SIGNATURES

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

IDERA PHARMACEUTICALS, INC.

By: /s/ Bryant D. Lim

Bryant D. Lim

Senior V.P., General Counsel

Dated: January 7, 2019



Idera Pharmaceuticals

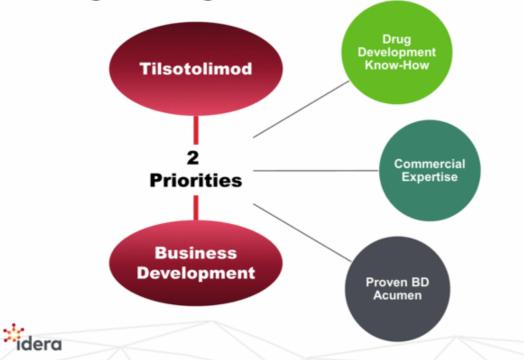
37th Annual J.P. Morgan Healthcare Conference January 2019

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 filed on Form 10-K for the period ended December 31, 2017 and Quarterly Report filed on Form 10-Q for the period ended June 30, 2018. 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.



Creating the Long-term Value of Idera







Near Term Value Growth Led by Tilsotolimod



- Pursuit of Orphan Indications
- Compelling Clinical Outcomes
- Clinical Results and Expansion Pathway Bolstered by Translational Data

Tilsotolimod Strategic Development Program



EXPLORE

- · Pre-clinical Studies
- ILLUMINATE 101 Multiple Solid Tumor Types
- Translational Research ILLUMINATE 101 and 204

CONFIRM

• ILLUMINATE 204

Anti-PD-1 Relapsed / Refractory

ILLUMINATE 301

Metastatic Melanoma

EXPAND

- ILLUMINATE 206 Additional Unmet Solid Tumor Types
- Investigator Sponsored Trials
- · Clinical Collaborations / Partnerships



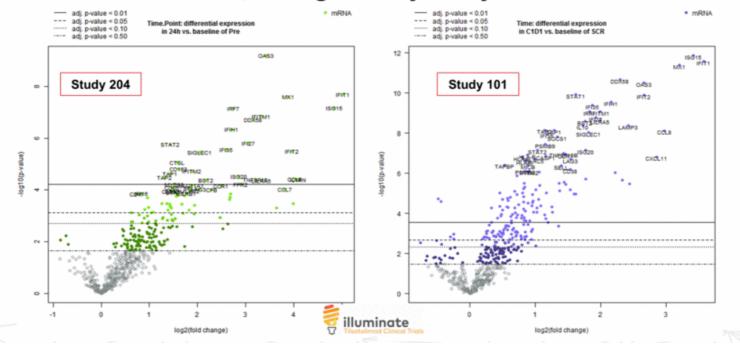
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- · Pre-clinical Studies
- ILLUMINATE 101 Multiple Solid Tumor Types
- Translational Research ILLUMINATE 101 and 204



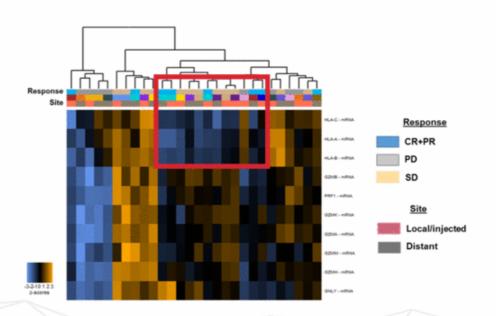
Tilsotolimod Induces Rapid Gene Expression in the Tumor Microenvironment, Paving the Way for Systemic Clinical Benefit



Demonstrated Potential of tilsotolimod to Overcome **CTLA-4 Resistance Mechanism**



Responses seen in HLA-ABC low tumors at baseline (red box)





ILLUMINATE 101 Monotherapy Trial Demonstrating Tumor Priming beyond Melanoma



- Site status
 - US: 10 sites active
 - Ex-US: 4 sites active in Israel
- Dose escalation in refractory solid tumors, N= 39
 - Cancer types included: ocular, esophageal, colorectal, pancreatic, sarcoma, NSCLC, breast with skin met, urothelial
 - Majority of subjects being dosed via administration into visceral lesions – no safety concerns
 - Translational data confirms robust Type I IFN pathway activation in 24 hours



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Demonstrating Tumor Priming beyond Melanoma



ILLUMINATE 101 Monotherapy Trial

- Site status
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- Dose escalation in refractory solid tumors, N=39
 - Cancer types included: ocular, esophageal, colorectal, pancreatic, sarcoma, NSCLC, breast with skin met, urothelial
 - Majority of subjects being dosed via administration into visceral lesions – safety consistent with other studies
 - Translational data confirms robust Type I IFN pathway activation in 24 hours



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- ILLUMINATE 204
- ILLUMINATE 301

Anti-PD-1 Relapsed / Refractory Metastatic Melanoma



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204 Study: Results to Date Imply Potential for Significant Improvement Over Standard of Care

	illuminate Tilsotolimod Clinical Trials	
	tilsotolimod + ipilimumab (N=34) ¹	ipilimumab monotherapy post PD-1 (N=97)²
Best Overall Response		
Complete Response (CR)	5.9% (2)	3%
Partial Response (PR)	26.5% (9)	11%
Stable Disease (SD)	44.1% (15)	33%
Progressive Disease (PD)	23.5% (8)	33%
Unknown	0	23%
Overall Response Rate (CR or PR)	32.4% (11)	14%
Disease Control Rate (CR, PR, or SD)	76.5% (26)	47%
Overall Response Rate per RECIST v1.1	29.4% (10) ³	14%



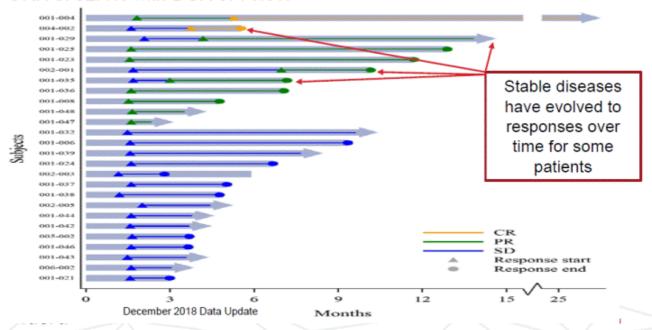
^{1 34} of 37 subjects had at least 1 post-baseline disease assessment at time of data cut
2 Historical comparison (Long G et al. Society of Melanoma Research 2016 Congress. Boston, MA, USA: 2016)
3 One patient with an unconfirmed PR at the end of treatment visit progressed due to a new lesion at the 3-month follow-up

© 2019 Idera disease assessment

204 Study: Time To and Duration of Disease Control

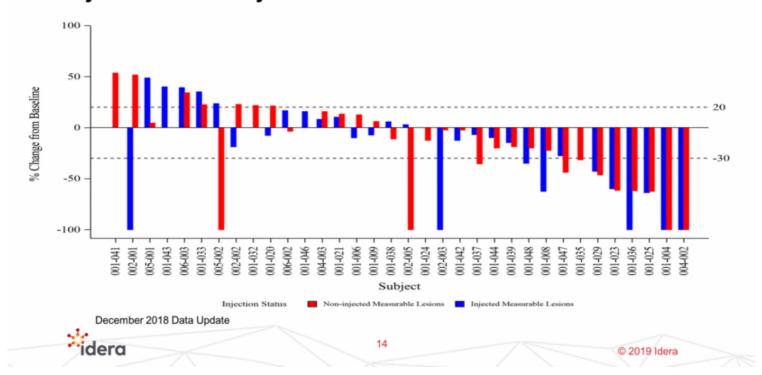


ORR of 32.4% with DCR of 76.5%



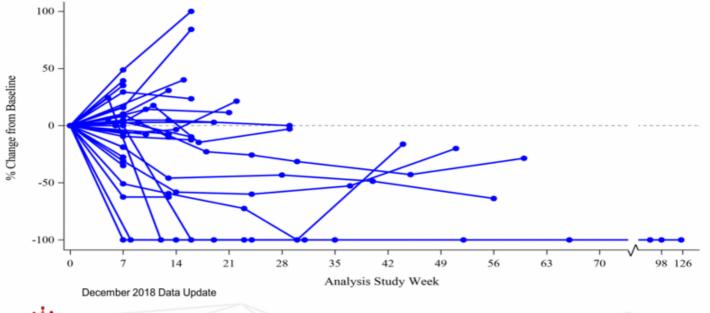
204 Study: Percent (%) Change from Baseline in Injected and Uninjected Lesions





204 Study: Percent (%) Change from Baseline in Injected Tumors



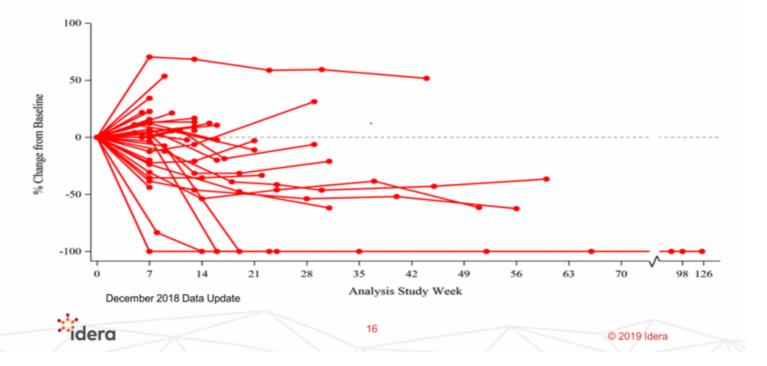


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204 Study: Percent (%) Change from Baseline in Uninjected Tumors Demonstrating Abscopal Effect





Illuminate 204 Trial Goals Achieved



Final data expected 2nd half 2019

- Established the recommended Phase 2 dose (RP2D) of 8mg tilsotolimod in combination with ipilimumab and pembrolizumab
- Provided proof of mechanism for tilso based on translational work from Phase 1
 - Rapid, within 24 hours, induction of IFNα
 - Responses in tumors not expected to respond to ipilimumab alone based on HLA-ABC low baseline expression
- Provided clinical proof of concept with ORR ~30% vs historic control of 10-16%

Illuminate 204 Trial to be closed to enrollment end of January 2019. 42 patients currently enrolled.

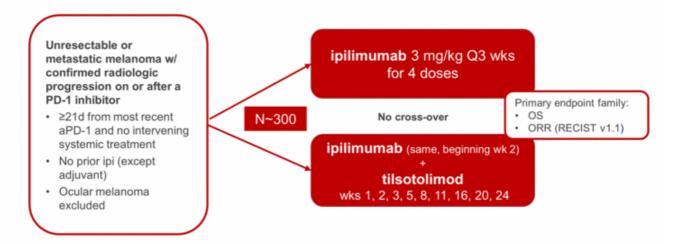


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ILLUMINATE-301 Registrational Trial -



Enrollment Completion Expected YE 2019



* More information about ILLUMINATE-301 can be found at www.clinicaltrials.gov #NCT03445533



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EXPAND

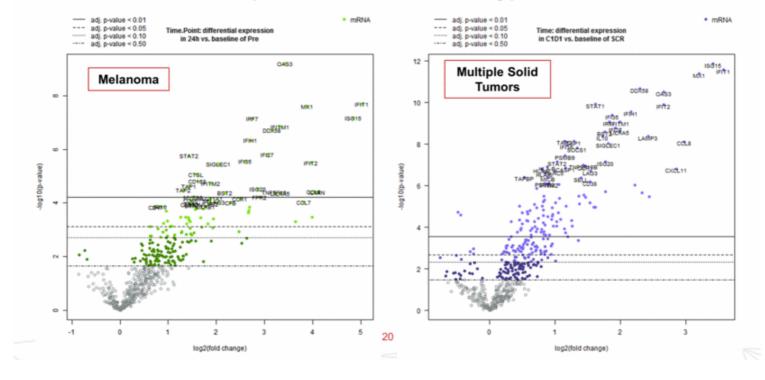
- ILLUMINATE 206 Additional Unmet Solid Tumor Types
- Investigator Sponsored Trials
- · Clinical Collaborations / Partnerships



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Introduction of Intratumoral Tilsotolimod Induces Similar TME Response Across Tumor Types







ILLUMINATE 206 – Master Protocol Basket Design

Evaluation of tilsotolimod combined with one or more immunotherapy agents for the treatment of solid tumors

- Individual sub-studies for each tumor type and combination
- Efficacy evaluation designed with 2 parts
 - Part 1: signal finding, Simon's Minimax 2-stage
 - Part 2: randomized, controlled expansion of Part 1 indications
- Mandatory sequential tumor biopsies collected in Part 1
- Safety, Blood biomarkers, PK, Immunogenicity

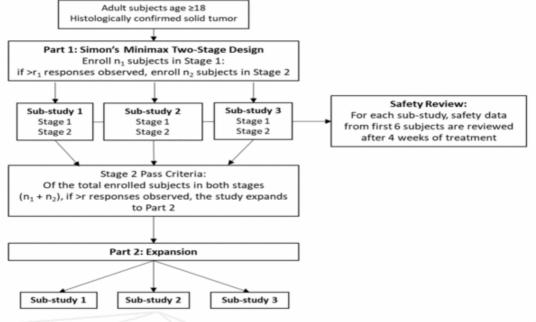


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2125-MST-206 Trial Design



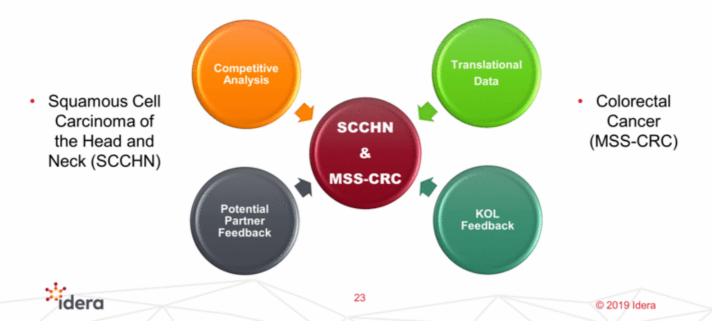


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ILLUMINATE 206 Initial Expansion Beyond Melanoma

Broad Effort to Determine Appropriate First Tumor Types for Expansion



ILLUMINATE 206: Initial Expansion Beyond Melanoma

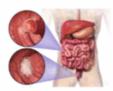


Triple Combination Therapy in Orphan Indications of Significant Unmet Need

Squamous Cell Carcinoma of the Head and Neck (SCCHN)

- ~55,000 new cases with 12,000 deaths in the US annually
 - Immunotherapy naïve SCCHN
 - Immunotherapy progressing SCCHN





Colorectal Cancer (MSS-CRC)

- ~135,500 new cases with ~50,000 deaths.
- Of total CRC cases, MSS represents 80-85% (and a higher proportion of deaths)
- MSS-CRC, Chemo refractory, immunotherapy naïve

Additional indications/I-O combinations can be added

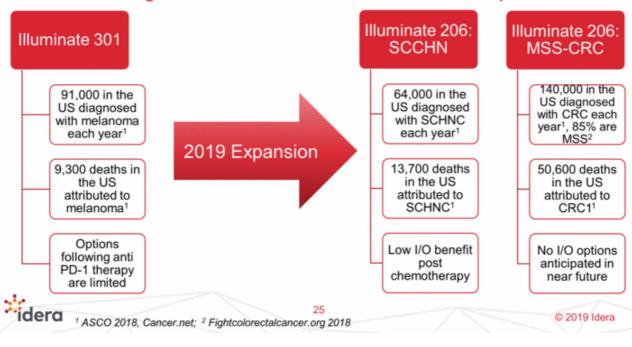


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ILLUMINATE 206



Further Advancing Tilsotolimod Into Underserved Patient Populations







Leveraging Business Development to Generate Additional Growth

- Management Track Record
- Focused Screening

Leveraging Management's Track Record and Expertise

- Built ViroPharma, an international rare disease company with over \$500 million in annual sales at time of being acquired
- Successfully commercialized products in the US in areas not initially well-appreciated by the investment community
- · Built a multi-product European business
- Completed numerous deals, both commercial and pipeline, that shaped the foundation and the future of the company
- Demonstrated a strong track record of resilience





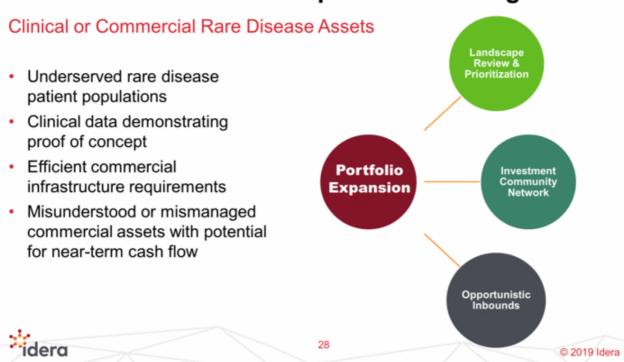






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Focused Business Development Screening



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Financials and Capital Structure Updates

- Completed Q3 2018 with \$82.5M cash
- Expected cash runway into Q1 2020
- Approximately 27M shares outstanding
- ATM in place to raise up to \$50M



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Critical Growth Catalysts in 2019

Tilsotolimod

- ILLUMINATE 204 Final Data
- ILLUMINATE 206 Initiation and Execution
- ILLUMINATE 101 Translational Data
- ILLUMINATE 301 Completion of Enrollment

illuminate Tilsotolimod Clinical Trials

Corporate

- Potential Execution of Business Development Deal
- · Potential Partnerships/Collaborations tilsotolimod



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