



# Idera Pharmaceuticals

*Barclays*

*2019 Global Healthcare Conference*

*March 2019*

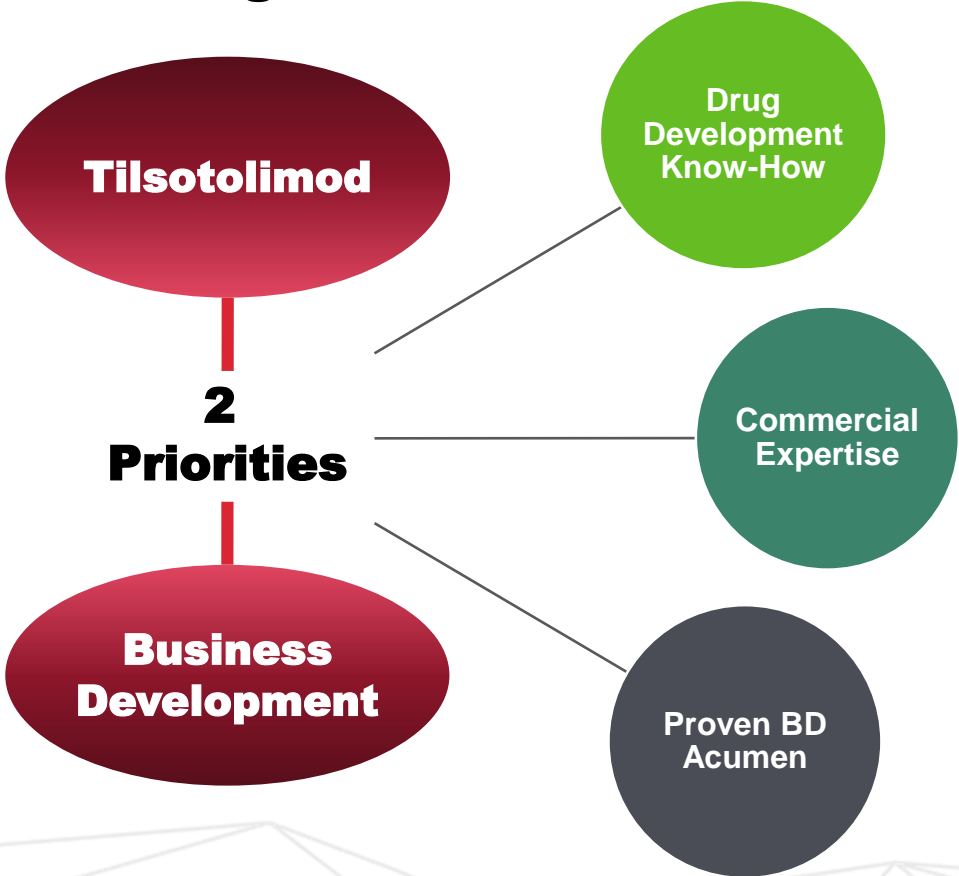
*This presentation has been updated to reflect the PR (partial response) rate as 23.5%; a previous version of this presentation indicated a PR rate of 26.5%. Please see slide 6.*



# 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, 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



# Injecting a New Solution to Advance Cancer Immunotherapy

## 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



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



	<b>tilsotolimod + ipilimumab (N=34)<sup>1</sup></b>	<b>ipilimumab monotherapy post PD-1 (N=97)<sup>2</sup></b>
<b>Best Overall Response</b>		
<b>Complete Response (CR)</b>	<b>8.8% (3)</b>	3%
<b>Partial Response (PR)</b>	<b>23.5% (8)</b>	10%
<b>Stable Disease (SD)</b>	<b>44.1% (15)</b>	32%
<b>Progressive Disease (PD)</b>	<b>23.5% (8)</b>	33%
<b>Unknown</b>	<b>0</b>	23%
<b>Overall Response Rate (CR or PR)</b>	<b>32.4% (11)</b>	13%
<b>Disease Control Rate (CR, PR, or SD)</b>	<b>76.5% (26)</b>	45%
<b>Overall Response Rate per RECIST v1.1</b>	<b>29.4% (10)<sup>3</sup></b>	14%

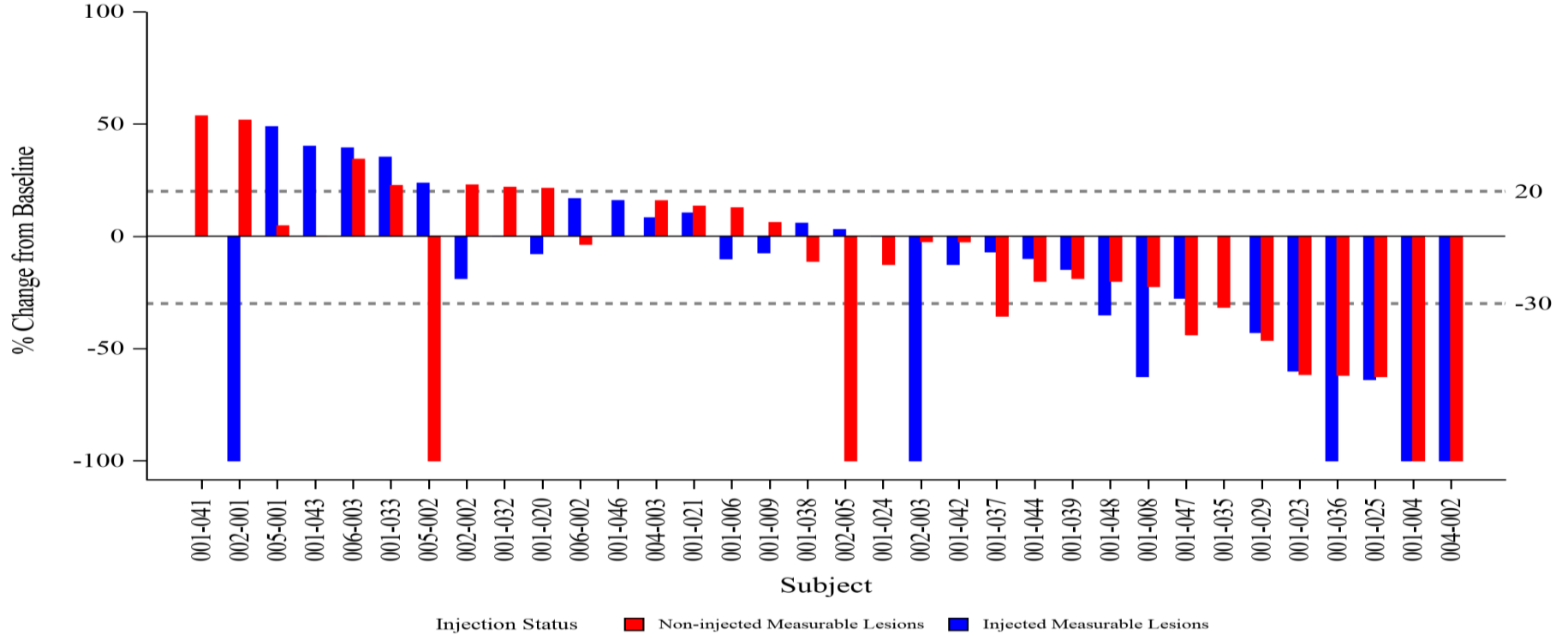


<sup>1</sup> 34 of 37 subjects had at least 1 post-baseline disease assessment at time of data cut

<sup>2</sup> Historical comparison (Long G et al. Society of Melanoma Research 2016 Congress. Boston, MA, USA: 2016)

<sup>3</sup> One patient with an unconfirmed PR at the end of treatment visit progressed due to a new lesion at the 3-month follow-up disease assessment

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



December 2018 Data Update

# Illuminate 204 Trial Goals Achieved

Final data expected 2nd half 2019

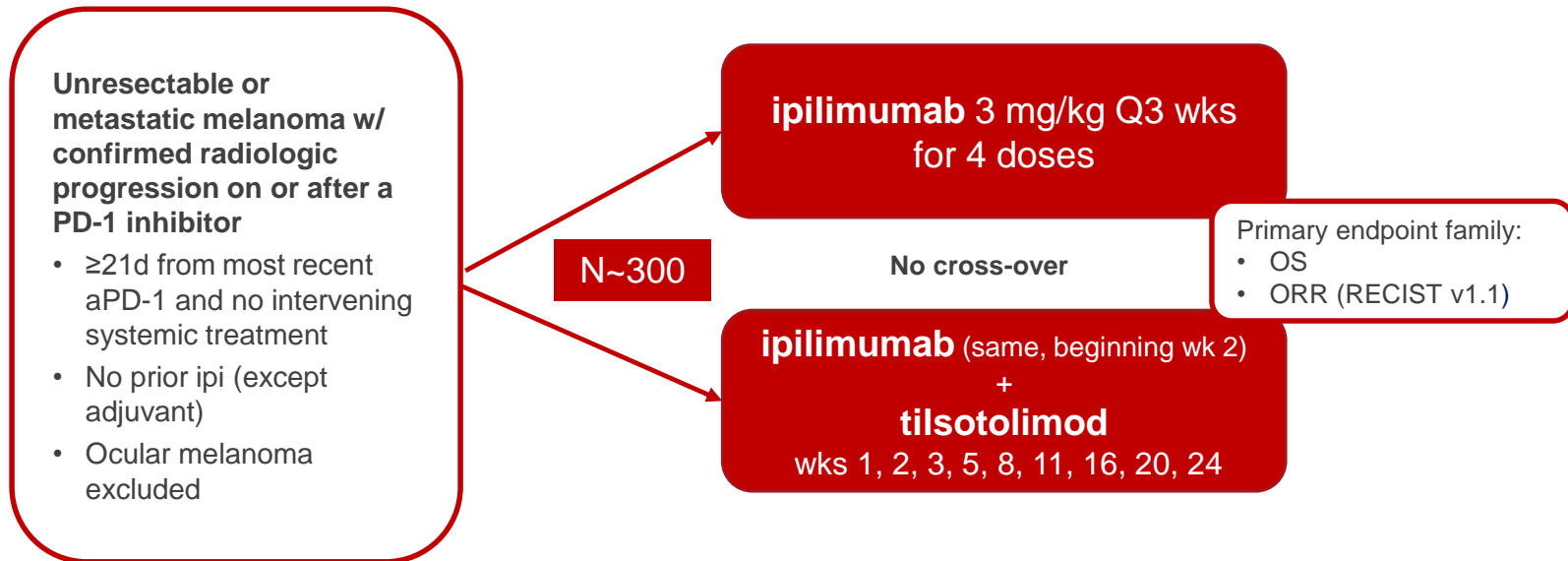
- Established the recommended Phase 2 dose (RP2D) of 8mg tilsotolimod in combination with ipilimumab and pembrolizumab
- Provided proof of mechanism for tilso based on translational work from Phase 1
  - Rapid, within 24 hours, induction of IFN $\alpha$
  - Responses in tumors not expected to respond 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 enrollment completed February 2019.  
52 patients dosed.*



# ILLUMINATE-301 Registrational Trial –

Enrollment Completion Expected YE 2019



\* More information about ILLUMINATE-301 can be found at [www.clinicaltrials.gov](http://www.clinicaltrials.gov) #NCT03445533

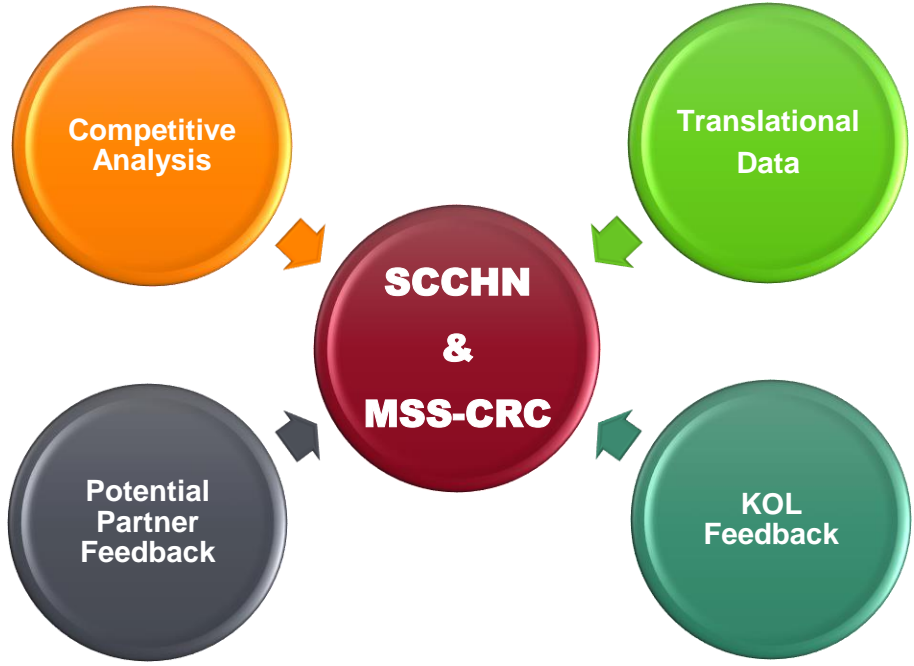


# ILLUMINATE 206 Initial Expansion Beyond Melanoma

Broad Effort to Determine Appropriate First Tumor Types for Expansion

- Squamous Cell Carcinoma of the Head and Neck (SCCHN)

- Colorectal Cancer (MSS-CRC)



# 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



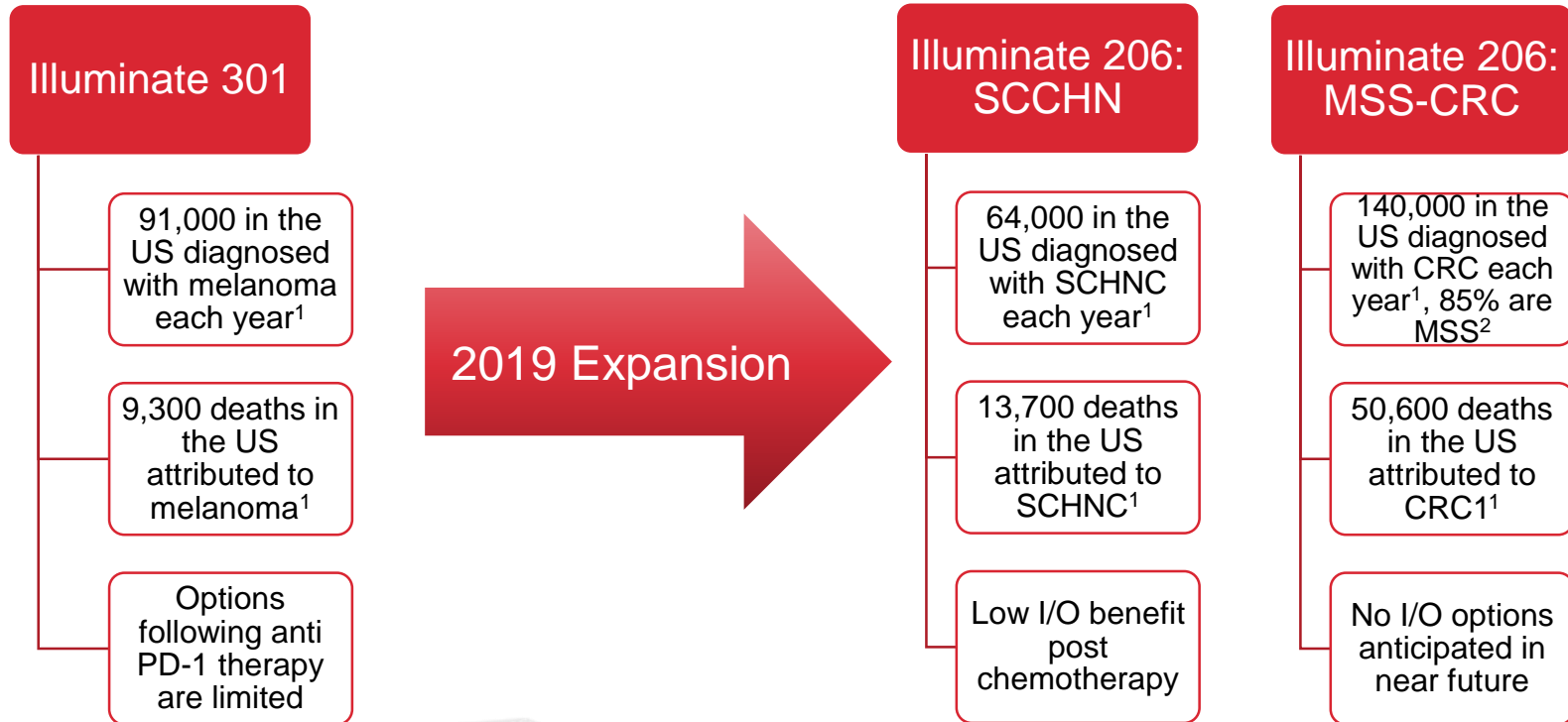
### Colorectal Cancer (MSS-CRC)

- ~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

# ILLUMINATE 206

## Further Advancing Tilsotolimod Into Underserved Patient Populations



# Building for Sustainable Growth

## Leveraging Business Development to Generate Additional Growth

- Management Track Record
- Focused Screening

# Leveraging Management's Track Record and Expertise

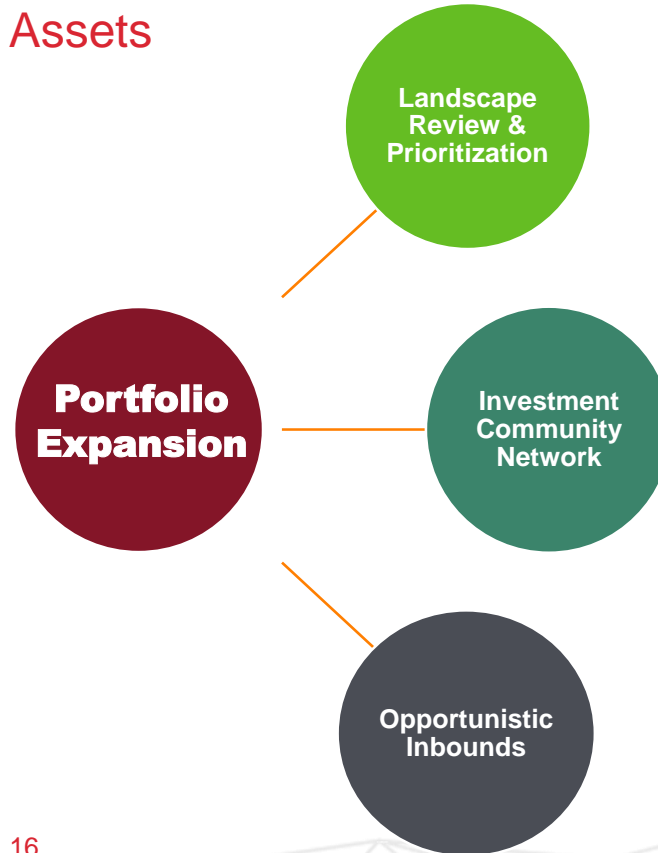
- Built ViroPharma, an international rare disease company with over \$500 million in annual sales at time of being acquired
- Successfully commercialized products in the US in areas not initially well-appreciated by the investment community
- Built a multi-product European business
- Completed numerous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



# Focused Business Development Screening

## Clinical or Commercial Rare Disease Assets

- Underserved rare disease patient populations
- Clinical data demonstrating proof of concept
- Efficient commercial infrastructure requirements
- Misunderstood or mismanaged commercial assets with potential for near-term cash flow





# Financials and Capital Structure Updates

- Completed 2018 with \$71.4M cash
- Expected cash runway into Q1 2020
- Approximately 27M shares outstanding
- ATM in place to raise up to \$50M
- \$35M Common Stock Purchase Agreement with Lincoln Park Capital (LPC)

# Critical Growth Catalysts in 2019

## Tilsotolimod

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



## Corporate

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