Filed by BioCryst Pharmaceuticals, Inc. pursuant to Rule 425
Under the Securities Act of 1933
And Deemed Filed Pursuant to Rule 14a-12
Under the Securities Exchange Act of 1934
Subject Company: BioCryst Pharmaceuticals, Inc.
Commission File No. of Subject Company: 000-23186

Combining Capabilities to Serve More Patients with Rare Diseases

Additional Information and Where to Find It

Additional Information and Where to Find It

In connection with the proposed merger, Nautilus Holdco, Inc. ("Holdco") has filed with the U.S. Securities and Exchange Commission (the "SEC") a Registration Statement on Form S-4 (as may be amended from time to time, the "Registration Statement") that includes the preliminary joint proxy statement of BioCryst Pharmaceuticals, Inc. ("BioCryst") and Idera Pharmaceuticals, Inc. ("Idera") and that also will constitute a prospectus of Holdco. These materials are not yet final and will be amended. Once the Registration Statement is declared effective by the SEC, each of BioCryst and Idera will mail the definitive joint proxy statement/prospectus included therein to their respective stockholders. BioCryst, Idera and Holdco will also file other documents with the SEC regarding the proposed transaction. These documents are not substitutes for the definitive joint proxy/prospectus that will be filed by each of BioCryst and Idera with the SEC and mailed to stockholders. BEFORE MAKING ANY VOTING DECISION, IDERA'S AND BIOCRYST'S RESPECTIVE STOCKHOLDERS ARE URGED TO READ THE DEFINITIVE JOINT PROXY STATEMENT/PROSPECTUS IN ITS ENTIRETY AND ANY OTHER DOCUMENTS FILED BY EACH OF IDERA AND BIOCRYST WITH THE SEC IN CONNECTION WITH THE PROPOSED MERGER OR INCORPORATED BY REFERENCE THEREIN BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION AND THE PARTIES TO THE PROPOSED TRANSACTION. Investors and stockholders may obtain free copies of these materials and other documents filed with the SEC (when available) by BioCryst, Idera and Holdco through the website maintained by the SEC at www.sec.gov. Idera and BioCryst make available free of charge at www.iderapharma.com and www.biocryst.com, respectively (in the "Investors" section), copies of materials they file with, or furnish to, the SEC.

Participants in the Solicitation

This document does not constitute a solicitation of proxy, an offer to purchase or a solicitation of an offer to sell any securities. Idera, BioCryst and their respective directors, executive officers and certain employees and other persons may be deemed to be participants in the solicitation of proxies from the stockholders of Idera and BioCryst in connection with the proposed merger. Security holders may obtain information regarding the names, affiliations and interests of Idera's directors and officers in Idera's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, which was filed with the SEC on March 15, 2017 and its definitive proxy statement for the 2017 annual meeting of stockholders, which was filed with the SEC on April 28, 2017. Security holders may obtain information regarding the names, affiliations and interests of BioCryst's directors and officers in BioCryst's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, which was filed with the SEC on February 27, 2017 and its definitive proxy statement for the 2017 annual meeting of stockholders, which was filed with the SEC on April 12, 2017 Additional information about the interests of BioCryst's directors and officers and Idera's directors and officers in the proposed merger can be found in the above-referenced Registration Statement. These documents may be obtained free of charge from the SEC's website at www.sec.gov, Idera's website at www.iderapharma.com and BioCryst's website at www.biocryst.com.

Forward-Looking Statements

These materials contain forward-looking statements within the meaning of the federal securities law, regarding, among other things, future events or the future financial performance of Idera and BioCryst. Such statements are based upon current plans, estimates and expectations that are subject to various risks and uncertainties. The inclusion of forward-looking statements should not be regarded as a representation that such plans, estimates and expectations will be achieved. Words such as "anticipate," "expect," "project," "intend," "believe," "may," "will," "should," "plan," "could," "target," "contemplate," "estimate," "predict," "potential" and words and terms of similar substance used in connection with any discussion of future plans, actions or events identify forward-looking statements. All forward-looking statements, other than historical facts, including statements regarding the expected timing of the closing of the merger; the ability of the parties to complete the merger considering the various closing conditions; the expected benefits of the merger, such as efficiencies, cost savings, tax benefits, enhanced revenues and cash flow, growth potential, market profile and financial strength; the competitive ability and position of the combined company; Idera's and BioCryst's plans, objectives expectations and intentions; any assumptions underlying any of the foregoing; and any statements relating to the merger, are forward-looking statements. Forward-looking statements are based on information currently available to Idera and BioCryst and involve estimates, expectations and projections. Investors are cautioned that all such forward-looking statements are subject to risks and uncertainties, and important factors that could cause actual events or results to differ materially from Idera's and BioCryst's plans, estimates or expectations. With respect to the transactions contemplated by the merger agreement between Idera and BioCryst, these factors could include, but are not limited to: (i) Idera or BioCryst may be unable to obtain stockholder approval as required for the merger; (ii) conditions to the closing of the merger may not be satisfied; (iii) the merger may involve unexpected costs, liabilities or delays; (iv) the effect of the announcement of the merger on the ability of Idera or BioCryst to retain and hire key personnel and maintain relationships with patients, doctors and others with whom Idera or BioCryst does business, or on Idera's or BioCryst's operating results and business generally; (v) Idera's or BioCryst's respective businesses may suffer as a result of uncertainty surrounding the merger and disruption of management's attention due to the merger; (vi) the outcome of any legal proceedings related to the merger; (vii) Idera or BioCryst may be adversely affected by other economic, business, and/or competitive factors; (viii) the occurrence of any event, change or other circumstances that could give rise to the termination of the merger agreement; (ix) risks that the merger disrupt current plans and operations and the potential difficulties in employee retention as a result of the merger; (x) the risk that Idera or BioCryst may be unable to obtain governmental and regulatory approvals required for the transactions, or that required governmental and regulatory approvals may delay the transactions or result in the imposition of conditions that could reduce the anticipated benefits from the transactions contemplated by the merger agreement or cause the parties to abandon the transactions contemplated by the merger agreement; (xi) risks that the anticipated benefits of the merger or other commercial opportunities may otherwise not be fully realized or may take longer to realize than expected; (xii) the impact of legislative, regulatory, competitive and technological changes; (xiii) risks relating to the value of the new holding company shares to be issued in the merger; (xiv) expectations for future clinical trials, the timing and potential outcomes of clinical studies and interactions with regulatory authorities; (xv) the risk that the credit ratings of the combined company or its subsidiaries may be different from what the companies expect; (xvi) economic and foreign exchange rate volatility; (xvii) the continued strength of the medical and pharmaceutical markets; (xviii) the timing, success and market reception for Idera's and BioCryst's products; (xix) the possibility of new technologies outdating Idera's or BioCryst's products; (xx) continued support of Idera's or BioCryst's products by influential medical professionals; (xxi) reliance on and integration of information technology systems; (xxii) the risks associated with assumptions the parties make in connection with the parties' critical accounting estimates and legal proceedings; (xxiii) the potential of international unrest, economic downturn or effects of currencies, tax assessments, tax adjustments, anticipated tax rates, raw material costs or availability, benefit or retirement plan costs, or other regulatory compliance costs; and (xxiv) other risks to the consummation of the merger, including the risk that the merger will not be consummated within the expected time period or at all. These risks, as well as other risks associated with the proposed merger, are more fully discussed in the joint proxy statement/prospectus included in the Preliminary Registration Statement filed with the SEC in connection with the proposed merger.

While the list of factors presented here is, and the list of factors presented in the Preliminary Registration Statement is, considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward looking statements. Consequences of material differences in results as compared with those anticipated in the forward-looking statements could include, among other things, business disruption, operational problems, financial loss, legal liability to third parties and similar risks, any of which could have a material adverse effect on BioCryst's or Idera's consolidated financial condition, results of operations, credit rating or liquidity. Readers are urged to consider these factors carefully in evaluating these forward-looking statements, and not to place undue reliance on any forward-looking statements. Readers should also carefully review the risk factors described in other documents that Idera and BioCryst file from time to time with the SEC. The forward-looking statements in this document speak only as of the date of this document. Except as required by law, Idera and BioCryst assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

Combination Creates Substantial Value

- ✓ A **unique player in rare diseases,** with scale and strengthened competitive position
- ✓ More opportunities for success through **diversified late-stage pipeline,** variety of early stage programs and supporting assets
- ✓ Synergistic **discovery engines** with enhanced development opportunities, including through joint small molecule and oligo treatments
- ✓ Best-in-class people, facilities and **commercial know-how in rare diseases**
- ✓ Increased financial **strength and flexibility** through significant cost synergies and opportunities to generate non-dilutive capital

Combination Highlights

Terms	• Stock for stock transaction • Each share of BioCryst to be converted into 0.50 shares of new company stock • Each share of Idera to be converted into 0.20 shares of new company stock
Ownership at Closing	• BioCryst stockholders to own 51.6% of new company and Idera stockholders to own 48.4%, on a fully diluted basis
Cash Position	• ~$243 million net cash balance* • Opportunities for non-dilutive capital
Board of Directors	• New board comprised of 4 BioCryst directors, 4 Idera directors, and 1 new independent director • Robert Ingram, Chairman of the Board of Directors (current BioCryst Chairman) • Jon Stonehouse, CEO of BioCryst, to join Board • Vincent Milano, CEO of Idera, to join Board
CEO, Headquarters, and Research Center	• Vincent Milano, Chief Executive Officer • Headquarters: Exton, PA • Research Center: Birmingham, AL
Closing Conditions	• Subject to approval of BioCryst and Idera stockholders • Subject to other customary closing conditions
Voting Agreement	• A significant stockholder of each company has agreed to enter into a voting and support agreement and has agreed to vote in favor of the transaction. This stockholder owns ~9% of outstanding Idera shares and ~14% of outstanding BioCryst shares.
Transaction Close	• Expected in second quarter 2018

* Unaudited pro-forma cash balance as of December 31, 2017

Creating a Leader in Innovative Rare Disease Therapies

biocryst
Developing Oral Therapies for Life Threatening Rare Diseases
Small Molecule Rare Disease Discovery Engine
2 Late Stage Programs
Lead Candidate: **BCX7353** Prophylactic HAE

idera
Rare Disease Company with Strong Immuno-Oncology Assets
Oligo Rare Disease Discovery Engine
2 Late Stage Programs
Lead Candidate: **IMO-2125** PD-1 Refractory Melanoma

Robust Pipeline

- 2 Phase 3 orphan-designated programs with compelling data
- 2 additional Phase 2 rare disease programs
- 9 total rare disease programs
- 4 supporting asset programs

Synergistic Discovery Engines

- Significant experience with 2 distinct engines
- Expands number of rare disease targets beyond standalone capabilities
- Creates opportunities for differentiation in the market

Financial Strength

- $30 million in annual pre-tax cost synergies expected by year three after closing
- ~$243 million net cash balance*
- Opportunities to add cash through partnering and other programs

Complementary Leadership

- Proven commercial team; launched 1st prophylactic HAE product
- Extensive clinical development experience

* Unaudited pro-forma cash balance as of December 31, 2017

Phase 3 Programs Create Financially Strong Foundation to Support Robust, Rare Disease Focused Pipeline

IMO-2125
PD-1 Refractory Melanoma in Combination with ipilimumab

- Novel agent designed to induce abscopal anti-tumor immune response
- Robust and durable clinical and translational data generated
- Opportunity to improve I/O outcomes with CPIs across multiple tumor types
- Multi billion dollar opportunity, along with data, driving strategic interest in partnering

Compelling Data driving 2 Phase 3 programs

Strong cash flow opportunities from commercializing and partnering

BCX7353
Prophylactic HAE

- Once a day oral (capsule)
- Competitive attack rate reduction 73%
- Safety & tolerability similar to placebo at most effective dose
- $2 billion projected global market opportunity
- Phase 3 ready

Merger Upside: Maximizing Value and Market Potential

Value Driver		Merger Amplifier
Commercializing BCX7353	→	**Idera management HAE launch experience**
Investing in commercial launch and ongoing pipeline development	→	**Capital from out licensing opportunities**
Expanding market opportunity + diffusing risk	→	**BCX7353 and IMO-2125 Phase 3 opportunities in rare disease markets + IMO-2125 in other cancer markets**
Building rare disease pipeline	→	**Leveraging and combining complementary discovery engines**

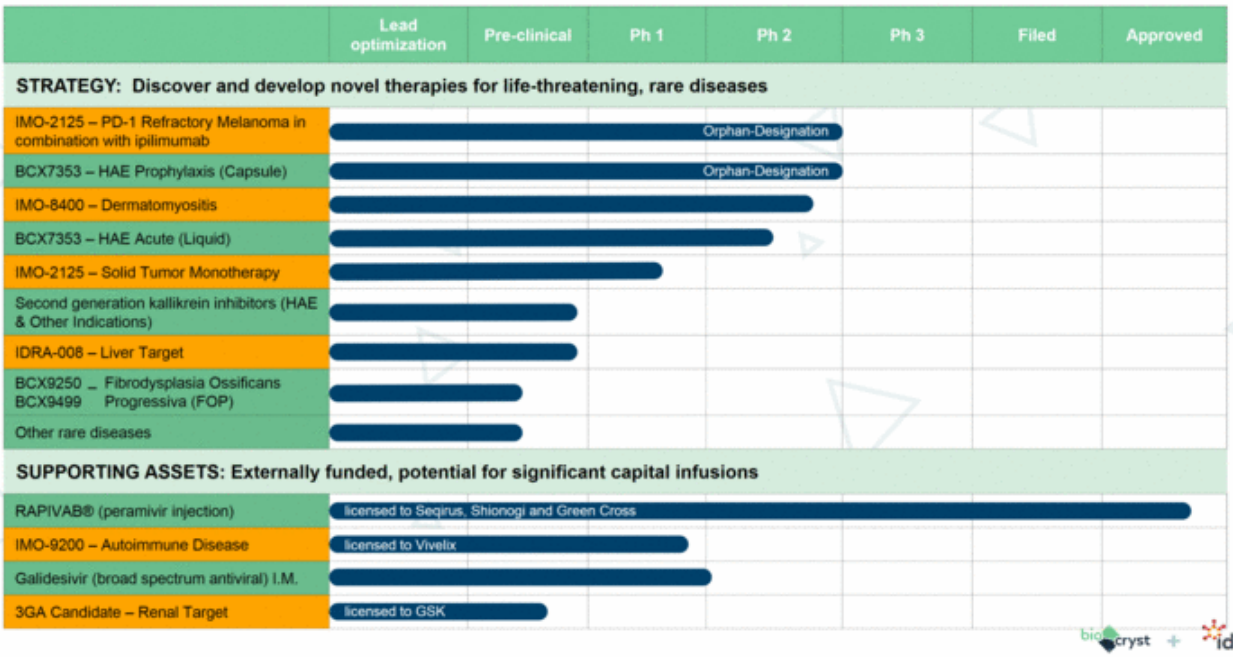
Complementary Assets and Platforms Enhance Market Opportunities and Accelerate Value Creation

Synergistic Discovery Engines with Enhanced Development Opportunities

- Ability to leverage both structure-guided small molecule design and nucleic acid/oligonucleotide chemistry within one organization
  - Combination therapy of small molecule and oligo may create more effective and potentially unique treatments for rare diseases
  - Combining technologies expands number of rare disease targets that can be advanced into development
- Testable hypotheses
  - Small molecule-oligonucleotide conjugates targeted to specific tissue types
  - Combination therapeutics with small molecules and oligos exploiting two different mechanisms of action

Opportunity: Expanded Disease Targets and Potentially Unique Treatments

Robust Rare-Disease Focused Pipeline



Innovative Portfolio of Late-Stage Programs

BCX7353
Prophylactic HAE

- Oral (capsule) Kallikrein Inhibitor for Hereditary Angioedema
- One pill, once a day – fulfilling patient needs
- HAE market expected to exceed $2B in global sales
- Robust quality of life data

IMO-2125
PD-1 Refractory Melanoma in Combination with ipilimumab

- Intratumoral TLR9 Agonist for Rare Cancer Indication – Refractory Melanoma
- Peak year sales estimate > $500 million
- Long-term expansion into I/O addressable and unaddressable tumors

Phase 3 Initiating Q1 2018
(orphan designations)

BCX7353
Acute HAE

- Oral (liquid) Kallikrein Inhibitor for Hereditary Angioedema
- Complementary acute therapy to create an HAE portfolio
- Global acute markets and breakthrough attack therapy

IMO-8400
Dermatomyositis

- Subcutaneous TLR 7,8,9 therapy for dermatomyositis
- Severely debilitating disease affecting skin and muscle in ~25K patients in the U.S.

Phase 2 Data in 2018

Proven Rare Disease Clinical & Commercial Track Record

CINRYZE C1 inhibitor (human) | Hizentra Immune Globulin Subcutaneous (Human) 20% Liquid | privigen Immune Globulin Intravenous (Human), 10% Liquid | Kcentra Prothrombin Complex Concentrate (Human) | VANCOCIN HCl (vancomycin hydrochloride capsules, USP)

- 1st prophylactic treatment of HAE
- Grew to ~$400M in N.A. annual sales in 5 years

- Multiple global and U.S. rare disease launches
- Led launch for 5 global brands that drive ~70% of CSL's current revenue
- Grew U.S. Hizentra and Privigen sales to >$1B

- >245 HAE patients dosed and studied
- CMOs clinical development/launch experience: Aranesp®, Enbrel®, Kineret®, Neulasta® and Sensipar® Taxotere® Bactroban®, Relafen®/ Reliflex® Lovenox®, Celectol®, Augmentin®, Timentin®, temocillin®.

- Treatment of C. difficile-associated diarrhea (CDAD)
- Grew to ~$300M in annual sales

Vincent Milano	Dan Soland	William Sheridan, MB BS	Joanna Horobin, MB ChB	Lynne Powell	Clayton Fletcher
Chief Executive Officer	Chief Operating Officer	Chief Medical Officer	Chief Medical Officer	Chief Commercial Officer	VP, Strategy/ Bus. Development

2018: Significant Near-Term Value-Building Events

Q1 ▸ **BCX 7353**
Initiate **APEX-2 Ph 3** Pivotal Trial in HAE prophylaxis

Q1 ▸ **IMO-2125**
Initiate **ILLUMINATE 301 Ph 3** Pivotal Trial in PD-1 Refractory Metastatic Melanoma in combination with ipilimumab

Q2 ▸ **IMO-8400**
Data available from **PIONEER Phase 2** Trial in Dermatomyositis

Q2 ▸ **IMO-2125**
ILLUMINATE 204 Phase 2 Trial in PD-1 Refractory Metastatic Melanoma in combination with ipilimumab – **update at ASCO 2018**

▸ **BCX 7353**
Data from **ZENITH-1 Phase 2** Study in Acute HAE

▸ **IMO-2125**
Complete enrollment in **ILLUMINATE 204 Phase 2** Trial in PD-1 Refractory Metastatic Melanoma

▸ **STRATEGIC**
Potential **partnering** and **additional business development activities**

Solid Capital Position & Meaningful Operational Synergies

- ~$243 million net cash balance*
  - Capital for continued clinical development through next major milestone events and into Q3 2019
  - Capital for commercial launch planning and preparation
  - Multiple options for non-dilutive capital through renegotiating our debt, cash from in the money warrants and government stockpiling
  - Opportunities to generate larger amounts of non-dilutive capital through partnering in the near term and commercializing in the long term
- Projected $20 million in cash synergies in year two and approximately $30 million in annual pre-tax cost synergies expected in year three after closing
  - Facilities consolidation: Headquarters to Exton, PA; research center to Birmingham, AL
  - Expense consolidation over time expected to create additional cost savings and benefits

Strong Combined Financial Profile with Opportunities to Generate Non-Dilutive Capital

* Unaudited pro-forma cash balance as of December 31, 2017

Wall Street Analysts Recognize Value of Combination

PiperJaffray

"We view the merger favorably for creating pipeline "critical mass" (and risk diversification) versus clear clinical synergies, a direct correlation between the respective programs. We believe the merger adds strength in the form of 1) broader pipeline of rare disease candidates building on BioCryst's established '7353 clinical program, 2) deeper management team that combines an effective leadership track record in rare diseases (specifically HAE development and commercialization) with an emboldened balance sheet, and 3) 4-Phase II/III candidates to yield more value-creating milestones including Phase III enrollment and Phase II data anticipated in '18." (Piper Jaffray, 1/23/18)

JMP

"We like the merger for several reasons: 1) leadership gain for BCRX's oral kallikrein program in HAE (hereditary angioedema) as Vincent Milano has previously led the successful launch of the first prophylactic HAE product Cinryze which was later acquired by Shire (SHPG, NC); 2) portfolio diversification with a broader set of non-overlapping rare disease opportunities… 3) **distinct discovery platforms combining BCRX's small molecule chemistry expertise with IDRA's oligos approach gives the new company more optionality when it comes to choosing the right modality for the right disease**; and 4) the combined net cash balance of ~$243M (unaudited pro forma cash as of 12/31/2017) strengthens the new company's financial resources to pursue current clinical operations, future commercial efforts and long-term ambition to become a major rare disease player with multiple shots on goal." (JMP Securities, 1/22/18)

RBC

"…We believe [the combination] will provide enhanced HAE regulatory and commercial experience within a more diversified combined company framework that should help optimize the opportunity for BCRX's lead asset '7353 (prospects for which recently led us to upgrade BCRX shares to Outperform), synergize talents, increase newsflow, and ultimately drive long-term value." (RBC Capital Markets, 1/22/18)

"We believe that in addition to the BCRX's team's developmental, regulatory, and commercial preparation groundwork for '7353, IDRA's leadership brings key on-the-ground expertise interacting with FDA, physicians, and HAE advocacy groups which should substantially strengthen '7353's opportunity as the new company works to bring '7353 over the line and foster a switching dynamic. Importantly, we believe the IDRA team's diligence provides additional validation for '7353's clinical data (which has been a subject of debate, though we believe the efficacy is real), BCRX's initial regulatory progress, and the market need for an oral option in the disease." (RBC Capital Markets, 1/22/18)

Jefferies

"…Synergy between the companies will likely be derived from shared expertise in rare diseases. In a disease like HAE, where executing within a challenging competitive landscape could be critical, we believe additional expertise could actually increase chances of success. Further, **we appreciate how the separate expertise (BCRX w/ small molecules and IDRA w/ oligos) could be combined and leveraged in future rare disease pipeline innovation**." (Jefferies, 1/23/18)

Note: Permission to use quotations neither sought nor obtained.

BioCryst & Idera Boards Carefully Evaluated Strategic Options

- Engaged, Well-Advised Boards
  - BioCryst and Idera Boards comprised of highly experienced directors with extensive industry knowledge
  - BioCryst Board of Directors met numerous times over last two years to discuss value enhancing opportunities for BioCryst
  - Both Boards retained financial and legal advisors to assist in the evaluation
- Reviewed Alternative Value Enhancing Strategies
- BioCryst and Idera Boards Engaged in Discussions with Numerous Potential Partners

Both Boards Determined Merger Made Strategic Sense and is a Unique Opportunity to Enhance Stockholder Value

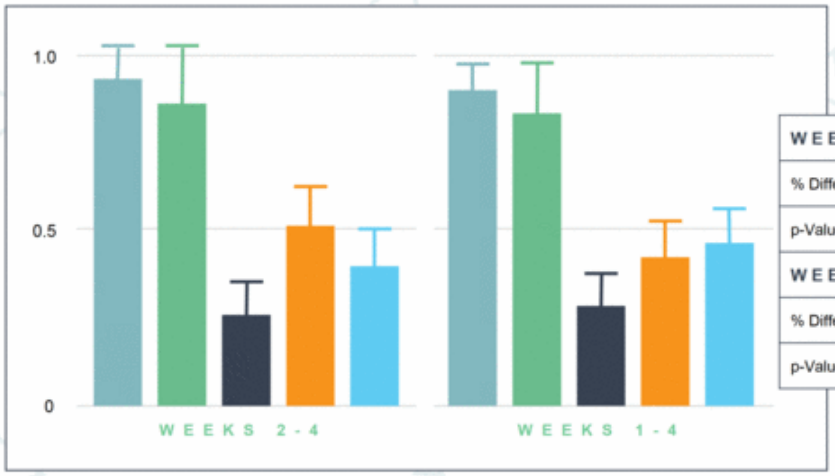
Combination Creates Substantial Value

- ✓ A **unique player in rare diseases,** with scale and strengthened competitive position
- ✓ More opportunities for success through **diversified late-stage pipeline,** variety of early stage programs and supporting assets
- ✓ Synergistic **discovery engines** with enhanced development opportunities, including through joint small molecule and oligo treatments
- ✓ Best-in-class people, facilities and **commercial know-how in rare diseases**
- ✓ Increased financial **strength and flexibility** through significant cost synergies and opportunities to generate non-dilutive capital

Appendix

APeX-1: Overall Angioedema Attack Rate per Week, PP Population, Weeks 2-4 and 1-4

Attack Rate: LS Mean Attacks/Week



	62.5mg	125mg	250mg	350mg
WEEKS 2-4				
% Difference, Active-PBO	-7%	-73%	-46%	-58%
p-Value	0.715	<0.001	0.006	<0.001
WEEKS 1-4				
% Difference, Active-PBO	-6%	-69%	-53%	-48%
p-Value	0.747	<0.001	<0.001	<0.001

Placebo | BCX7353 62.5mg QD | BCX7353 125mg QD | BCX7353 250mg QD | BCX7353 350mg QD

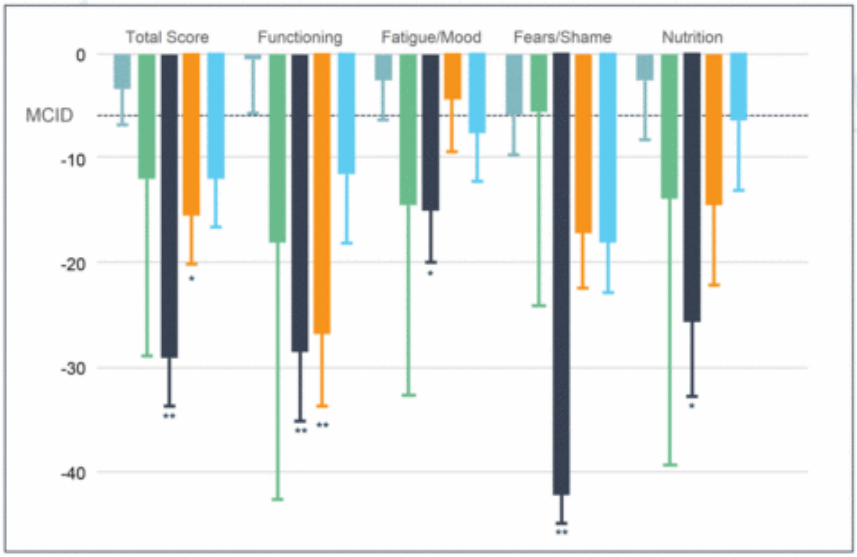
APeX-1: 125 mg Dose Provided Consistent Reductions in Attack Rate

Analysis	n	LS mean[1] Attacks per Week		Difference vs Placebo	Percentage Reduction vs Placebo	p-Value vs Placebo
		BCX7353 125 mg	Placebo			
Confirmed attacks, Weeks 2-4 PP population	13	0.248	0.932	-0.684	73%	<0.001
Confirmed attacks, Weeks 2-4 ITT population	14	0.249	0.937	-0.688	73%	<0.001
Confirmed attacks, Weeks 1-4 PP population	13	0.278	0.895	-0.617	69%	<0.001
Confirmed attacks, Weeks 1-4 ITT population	14	0.270	0.890	-0.619	70%	<0.001
Confirmed attacks requiring treatment, Weeks 2-4 PP population	13	0.221	0.807	-0.585	73%	<0.001
Confirmed attacks requiring treatment, Weeks 2-4 ITT population	14	0.224	0.771	-0.546	71%	0.002
Confirmed attacks requiring treatment, Weeks 1-4 PP population	13	0.221	0.788	-0.567	72%	<0.001
Confirmed attacks requiring treatment, Weeks 1-4 ITT population	14	0.217	0.753	-0.536	71%	<0.001

[1] Least squares mean calculated using an ANCOVA model with qualifying attack rate as covariate

APeX-1: Angioedema Quality of Life (AE-QoL): LS Mean Change from BL at Day 29, PP

QOL Score Improved



Difference in adjusted least square means are shown (Active treatment minus Placebo). ANCOVA Model includes terms of treatment and adjusted qualifying attack rate. Reductions (negative changes from BL) represent improvement in quality of life scores. MCID, minimum clinically important difference, -6 points (*Weller, K. 2016. Allergy 71(8): 1203-1209.*) BCX7353 dose level compared with placebo

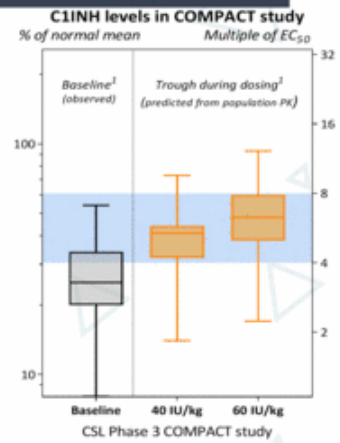
APeX-1: Treatment-Emergent Adverse Event Summary

Category	BCX7353 62.5 mg N = 7	BCX7353 125 mg N = 14	BCX7353 250 mg N = 14	BCX7353 350 mg N = 18	Placebo N = 22
Subjects with any TEAE[1], n (%)	4 (57)	7 (50)	11 (79)	14 (78)	15 (68.2)
Subjects with any Serious AE, n (%)	0	0	1 (7)[2]	0	0
Subjects with Drug-Related Grade 3/4 AE, n (%)	0	0	0	1 (6)	0
Subjects with AE Leading to D/C from Study Drug, n (%)	0	0	0	3 (17)	0
Non-drug-related, n (%)	0	0	0	1 (6)[3]	0
Drug-related, n (%)	0	0	0	2 (11)[4,5]	0

[1] TEAE- treatment-emergent adverse event.
[2] GI infection- investigator assessed as unrelated to study drug. Abdominal symptoms similar to several previous non-HAE-attack episodes occurring over past 3 years resulting in severe vomiting and diarrhea. Pt presented to ER and hospitalized for IV fluids and antiemetics as a precaution. No HAE acute attack meds given. Recovered and discharged the following day. Missed 1 day of dosing due to event.
[3] Pre-existing liver disorder (improved from baseline, but persisting). Previously reported in 1st interim analysis.
[4] n=1 Gastroenteritis with liver disorder (both assessed as related) (elevated ALT 1.9x ULN, GGT 5.4x ULN and ALP 1.6x ULN, with normal AST and bilirubin). Previously reported in 1st interim analysis.
[5] n=1 Vomiting/abdominal cramps. Previously reported in 2nd interim analysis.

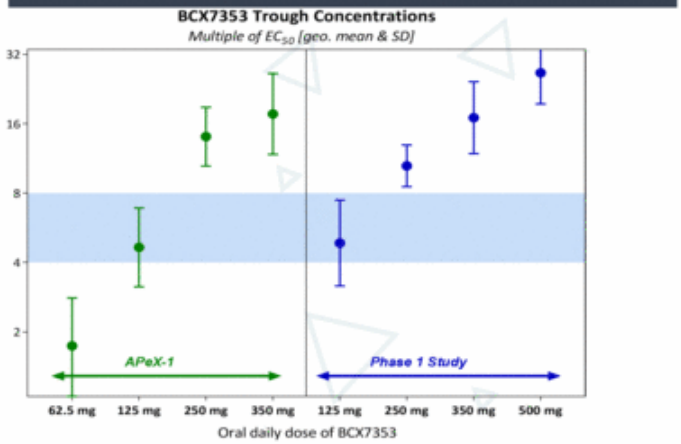
APeX-1: Exposure Comparisons of BCX7353 and SC C1INH

CSL-830 Phase 3 Study



C1INH levels at baseline and after SC dosing with CSL-830[1]

BCX7353 APeX-1 & Phase 1 Study



BCX7353 plasma concentrations at 24 hours post-dose

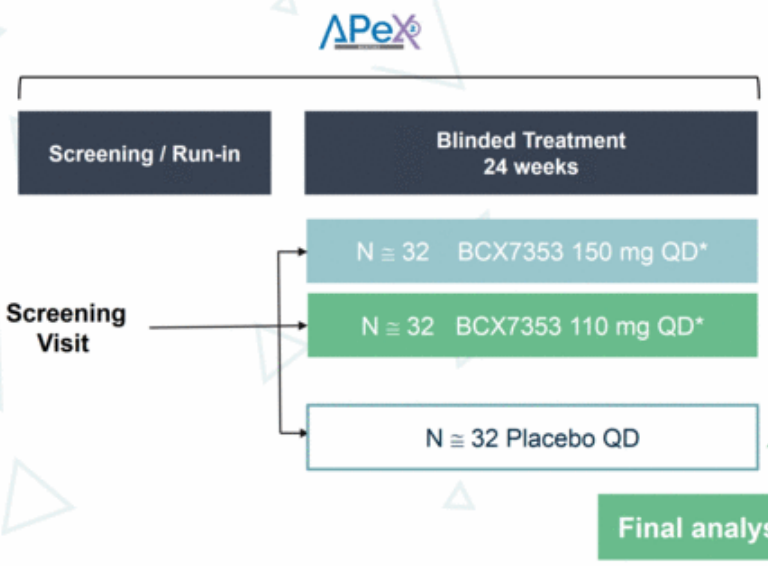
[1] Longhurst, H. et al. N Engl J Med 376, 1131-1140 (2017). Box plots represent median, 25th and 75th percentiles, minimum and maximum values. CSL-830 and BCX7353 data are from distinct clinical trials and no head to head study has been conducted.

Predictable PK Supports 175 mg as Second Dose in Phase 3

Dose, mg QD	% > 4 x EC_{50}		% > 6 x EC_{50}		% > 8 x EC_{50}	
	Predicted	Actual	Predicted	Actual	Predicted	Actual
62.5	--	*0*	--	*0*	--	*0*
125	70	*64*	38	*43*	17	*0*
175	93		80		58	
200	97		88		73	
225	98		93		83	
250	100	*100*	97	*100*	93	*100*

- Given the predictable PK of BCX7353, simulations are helpful in selecting an intermediate dose of BCX7353 to study that is between 125 mg and 250 mg.
- These simulations suggest a relatively small increase in dose above 125 mg should achieve a significant increase in the proportion of subjects achieving trough levels above the therapeutic target.
- These simulations suggest 175 mg dose should maintain trough drug levels > 4 x EC_{50} in > 90% of patients.
- Doses ≥ 200 mg offer little additional increment in proportions achieving target level.

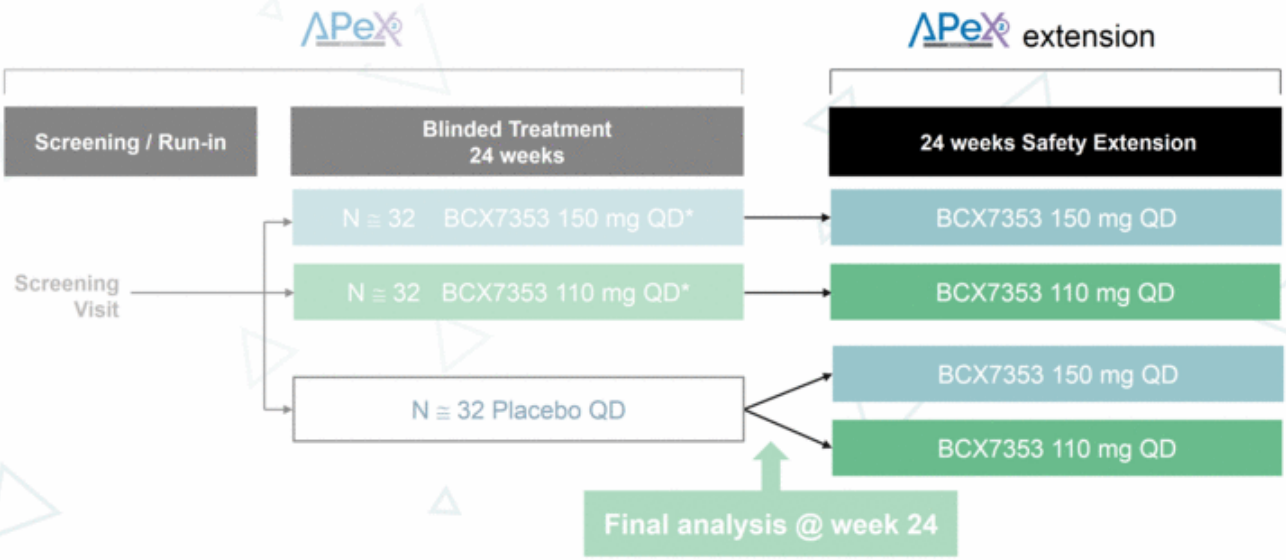
APeX-2: Phase 3 Trial Design



- Primary endpoint at Week 24:
  - Rate of Investigator-confirmed HAE attacks through entire treatment period
- Study powered at >90% to detect a ≥50% reduction in attack rate over placebo

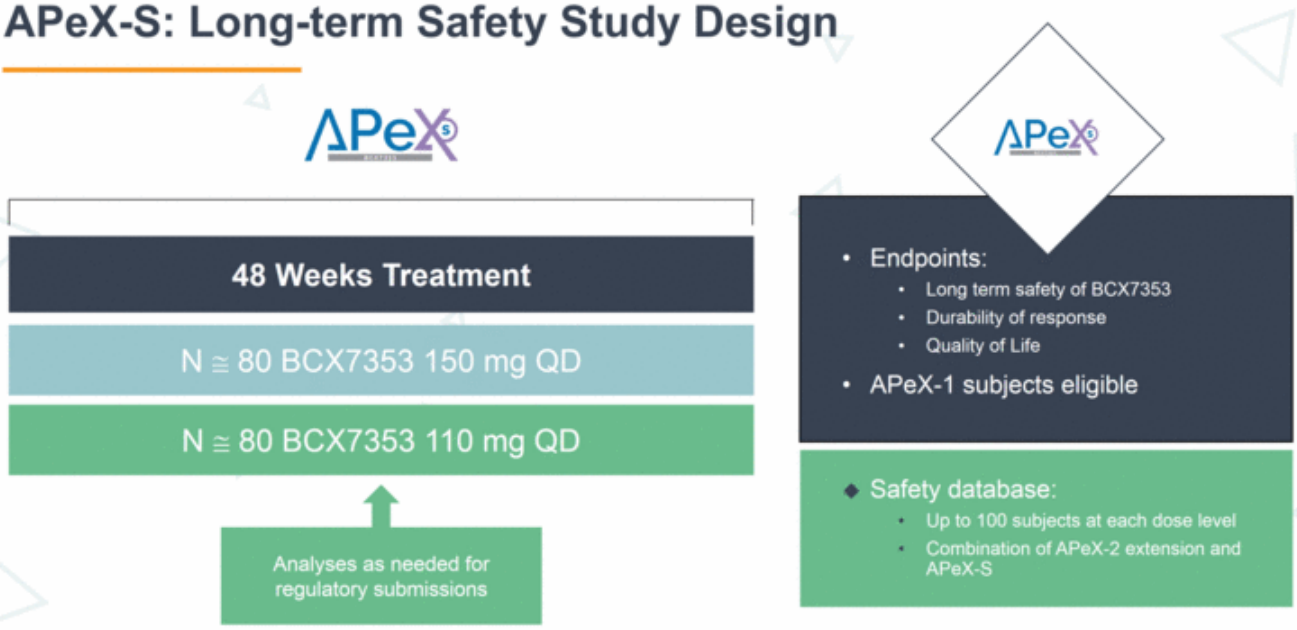
*Doses in Phase 2 APeX-1 were shown as the dihydrochloride salt:
150 mg = 175 mg dihydrochloride salt; 110 mg = 125 mg dihydrochloride salt

APeX-2: Phase 3 Trial Design – Safety Extension



*Doses in Phase 2 APeX-1 were shown as the dihydrochloride salt:
150 mg = 175 mg dihydrochloride salt; 110 mg = 125 mg dihydrochloride salt

APeX-S: Long-term Safety Study Design



*Doses in Phase 2 APeX-1 were shown as the dihydrochloride salt:
150 mg = 175 mg dihydrochloride salt; 110 mg = 125 mg dihydrochloride salt

Phase 1/2 Study in Anti-PD-1 Refractory Melanoma

illuminate Oncology Clinical Trials 2125-204

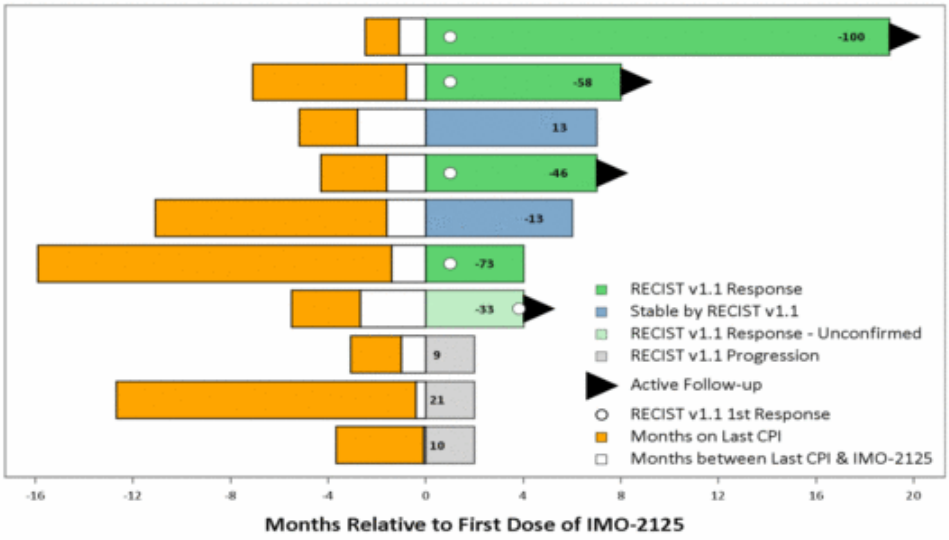
Phase 2 Expansion with Ipilimumab Enrolling

RP2D of IMO-2125 is 8mg

Dose-finding: IMO-2125 + ipilimumab SAFETY ASSESSMENT COMPLETED	→ Phase 2 IMO-2125 + ipilimumab OPEN
Dose-finding: IMO-2125 + pembrolizumab ONGOING	→ Phase 2 IMO-2125 + pembrolizumab PLANNED

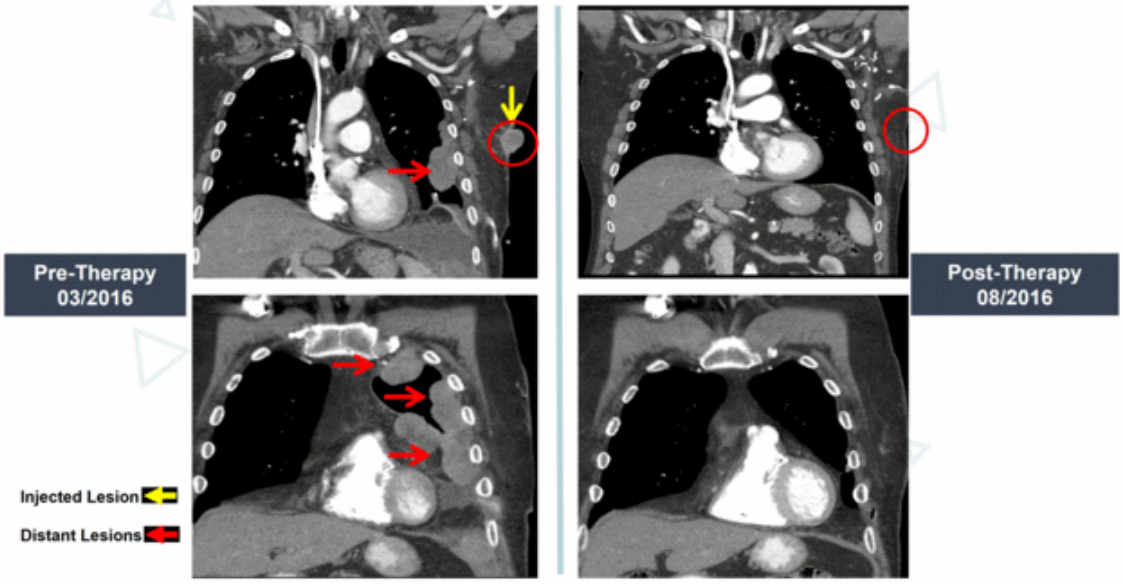
Dosing:
IMO-2125 is given as a single intratumoral agent week 1,2,3,5,8,11,15,19,23 Ipilimumab and pembrolizumab are administered per label beginning week 2
Deep injections are permitted with interventional radiology guidance
No need for infectious precautions

Time on Study: Best RECIST v1.1 Response and Largest Percentage Decrease in Target Lesions (8mg subjects)



Time on study ends at RECIST v1.1 PD (including death & start of anti-cancer therapy) or withdrawal for any reason.
Subjects treated with IMO-2125 8mg + Ipilimumab with at least 1 post-baseline disease evaluation. Some CPI start and stop dates have been imputed.
Data cut-off date: 03NOV2017 Produced on 11DEC2017

Patient 004 Remains a CR since May 2016



Phase 1 Conclusions

- The combination of IMO-2125 with ipilimumab was tolerable at all dose levels studied;
- Dendritic cell activation, detectable within 24 hours of the first IMO-2125 injection, is evidence for target acquisition at the Recommended Phase 2 Dose (8mg);
- IMO-2125 with ipilimumab showed clinical activity at the RP2D of 8mg in anti-PD-1 refractory melanoma;
  - 5 of 10 (50%) responded;
  - 7 of 10 (70%) experiencing disease control; and
  - An additional PR of >1year has been reported at 4mg
- Dose finding for IMO-2125 with pembrolizumab is ongoing, and one partial response (PR) has been seen.

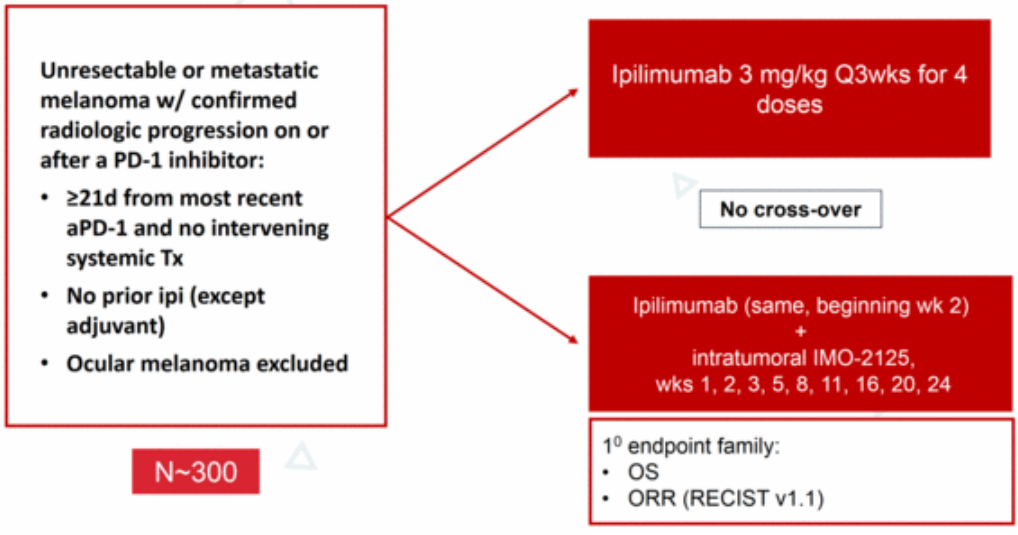
Phase 2 Expansion Update

illuminate Oncology Clinical Trials 2125-204

- Ipilimumab Combination Phase 2 Trial Expansion – Targeting approximately 60 patients with PD-1 refractory metastatic melanoma treated with 8mg
  - 21 patients enrolled
  - 10 Centers (5 sites currently enrolling)
    - MD Anderson, Roswell Park, Vanderbilt, Huntsman, Uni. of Arizona
  - Open label design
    - Allows for periodic data updates
    - Opportunistic engagements with regulatory authorities

Phase 3 Trial Design

illuminate IMO-2125 Clinical Trials 2125-MEL-301

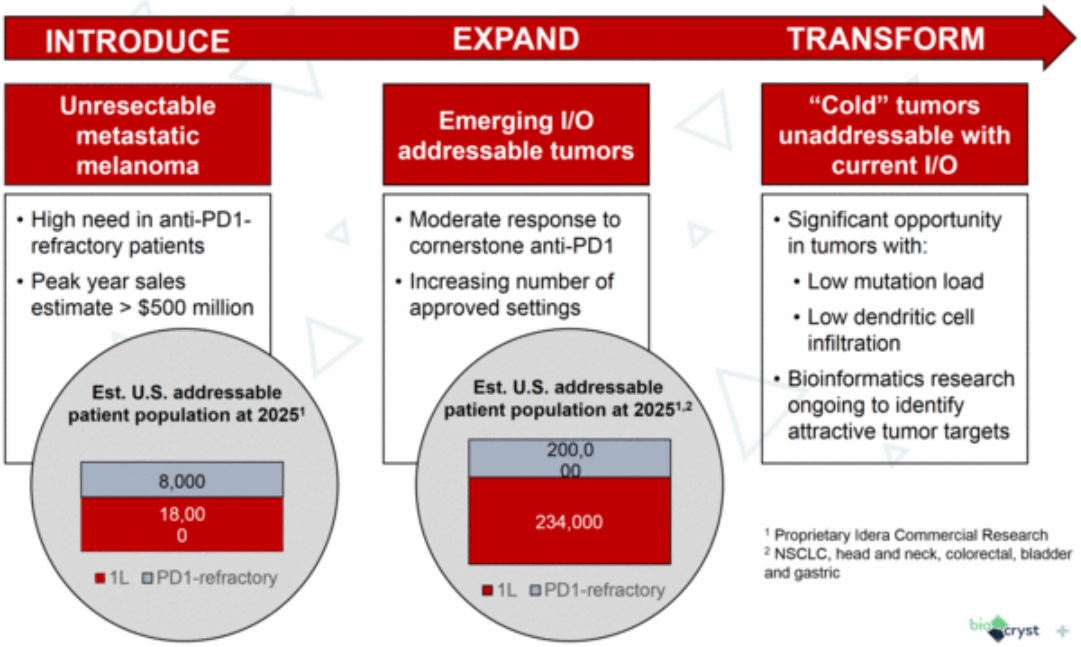


Phase 3 Readiness (FPFV 1Q18)

illuminate
IMO-2125 Clinical Trials
2125-MEL-301

- Agreement with FDA and MHRA on design and path forward for regular and accelerated approval (one study)
- Fast Track Designation Granted by U.S. FDA in Q4 2017
- Global trial (US, Can, EU, Aus)
  - ~300 patients
  - ~70 sites planned
- CMC work on track for 1Q18 start
  - Commercial presentation of IMO-2125 will be used
- Regulatory filings underway
  - Open U.S. IND
  - CTA filings on track

Growth/Partnering Opportunities



[1] Proprietary Idera Commercial Research
[2] NSCLC, head and neck, colorectal, bladder and gastric