Bellus HEALTH

Bloom Burton Healthcare Conference
TSX: BLU

May 1, 2019

Roberto Bellini
President and Chief Executive Officer
Twitter: @rbellini

Forward-Looking Statements

Certain statements contained in this presentation, other than statements of fact that are independently verifiable at the date hereof, may constitute "forward-looking statements" within the meaning of Canadian securities legislation and regulations. Such statements, based as they are on the current expectations of management, inherently involve numerous important risks, uncertainties and assumptions, known and unknown, many of which are beyond BELLUS Health Inc.'s control. Such risks factors include but are not limited to: the ability to expand and develop its project pipeline, the ability to obtain financing, the impact of general economic conditions, general conditions in the pharmaceutical industry, changes in the regulatory environment in the jurisdictions in which BELLUS Health Inc. does business, stock market volatility, fluctuations in costs, changes to the competitive environment due to consolidation, achievement of forecasted burn rate, potential payments/outcomes in relation to indemnity agreements and contingent value rights, achievement of forecasted pre-clinical and clinical trial milestones and that actual results may vary once the final and quality-controlled verification of data and analyses has been completed. In addition, the length of BELLUS Health Inc.'s drug candidates' development process, their market size and commercial value, as well as the sharing of proceeds between BELLUS Health Inc. and its potential partners from potential future revenues, if any, are dependent upon a number of factors. Consequently, actual future results and events may differ materially from the anticipated results and events expressed in the forward-looking statements. BELLUS Health Inc. believes that expectations represented by forward-looking statements are reasonable, yet there can be no assurance that such expectations will prove to be correct. The reader should not place undue reliance, if any, on any forward-looking statements included in this presentation. These forward-looking statements speak only as of the date made, and BELLUS Health Inc. is under no obligation and disavows any intention to update publicly or revise such statements as a result of any new information, future event, circumstances or otherwise, unless required by applicable legislation or regulation. ***Please see BELLUS Health Inc.'s public filings with the Canadian securities regulatory authorities, including the Annual Information Form, for further risk factors that might affect BELLUS Health Inc. and its business.***

BELLUS Overview

Lead program

P2X3 antagonist

BLU-5937

for chronic cough

Large population with significant need

Targeted by big pharma – Merck/Bayer

Phase 1 confirms best in class potential

Clinically validated target reduces clinical risk

Phase 2 starting mid 2019

Experienced

management with track record of execution

Important US institutional ownership with

~2

years cash runway

Potential to build

P2X3 Platform

Generating value by advancing drug candidates through clinical studies

Team

Management

Roberto Bellini
President &
Chief Executive Officer

Dr. Denis Garceau
Senior Vice President,
Drug Development

François Desjardins
Vice President,
Finance

Tony Matzouranis
Vice President,
Business Development

Board of Directors

Dr. Francesco Bellini
(Chair)

Dr. Youssef Bennani

Franklin Berger

Chau Q. Khuong

Pierre Larochelle

Joseph Rus

Dr. Clarissa Desjardins

Roberto Bellini

Management with a track record of execution

Problem: Refractory Chronic Cough

Cough lasting
≥8 weeks,
0 therapies that are
safe and effective

Major
impact on quality
of life

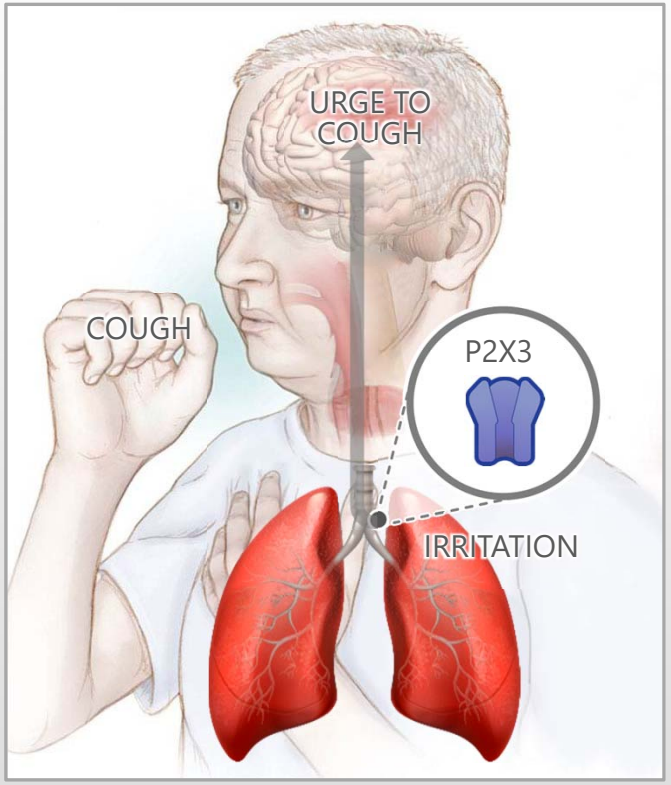
"I see patients that have been coughing 2 months to 30 years. Within that group, there is a good portion where I am the 8th or 10th doctor."

– Chronic Cough KOL

2.6M
patients in U.S. with longstanding refractory chronic cough

Multi $B
market potential

Strategy – Target P2X3 Receptor in Cough Reflex Pathway



P2X3 Receptor in Refractory Chronic Cough

- P2X3 is an ATP gated ion channel in the peripheral nervous system
- Key sensory receptor in feeling upper airway irritation and triggering cough reflex
- Targeting P2X3 with an antagonist is a validated approach to treating chronic cough in animals and humans

P2X3 is a rational target for treating refractory chronic cough that has been validated in animal and human studies

Treatment in Development is Suboptimal

Effective

Reduces awake cough frequency by

86%

Merck MK-7264

Mechanism: P2X3 antagonist

Major Side Effect

80%

of patients have taste alteration or taste loss

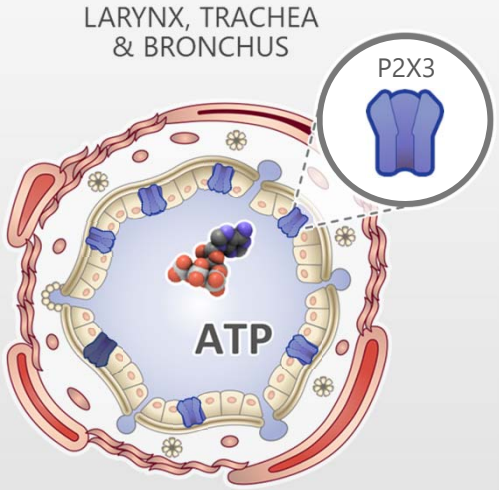
Merck & Co., Inc. (2017). *Merck Announces Presentation of Phase 2 Results for MK-7264, an Investigational, P2X3 Receptor Antagonist, Being Evaluated for the Treatment of Chronic Cough.* [Press Release]. Retrieved from http://www.mrknewsroom.com/news-release/research-and-development-news/merck-announces-presentation-phase-2-results-mk-7264-inve

Acquired in 2016 for $1.25B ($500M upfront) based on phase 2 data and currently in two Phase 3 studies

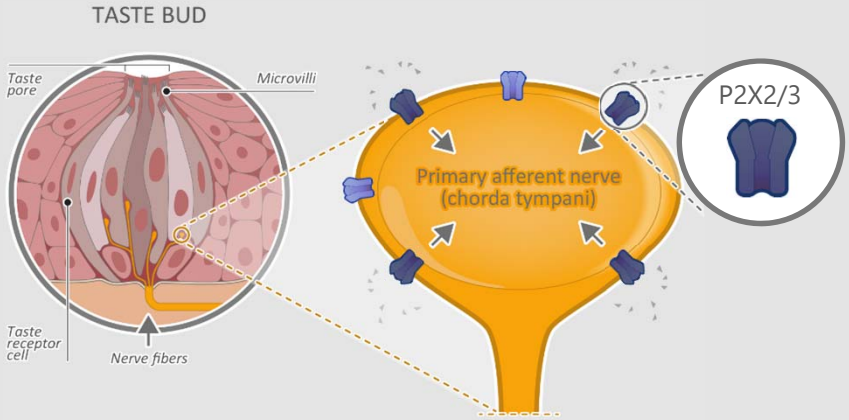
MK-7264 Effect on Taste Likely Caused by Inhibition of P2X3 and P2X2/3

P2X3 and P2X2/3 are ATP-gated ion channels that transmit sensory signals:

P2X3 homotrimers have primary role in **cough reflex**



P2X2/3 heterotrimers have major role in **taste**



Project hypothesis: Opportunity for highly selective P2X3 antagonist to reduce cough, maintain taste (no P2X2/3 inhibition)

Our Solution

Highly potent

P2X3 antagonist

Low nM IC_{50}

Highly selective

P2X3 antagonist

~ 1500X selectivity vs P2X2/3

BELLUS BLU-5937

Equivalent

reduction in cough frequency[1]

Little/No

impact on taste[2]

[1]vs. MK-7264 in animal studies

[2]Bellus Phase 1 data

BLU-5937 has key characteristics to test hypothesis and already validated in animal models

BLU-5937 Taste Profile Differentiated

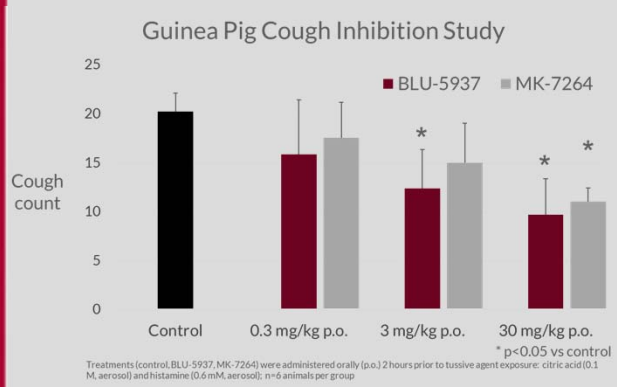
	Incidence and Severity of Taste Effect AEs at Estimated Comparative Therapeutic Doses	
	BLU-5937 (50-100 mg) (n=24)	**MK-7264[1] (50 mg) (n=57)**
Study	NCT03638180	NCT02612610
Dose(s)	50 and 100 mg single dose and 7 day BID cohorts	50mg BID arm for 12 weeks
Subjects	Healthy volunteers	Refractory chronic cough
Taste alteration	<5%	48%
Partial taste loss	0%	24%
Complete taste loss	0%	20%
All taste adverse events	<5%	81%

At estimated therapeutic doses, BLU-5937 has significantly improved taste effect profile versus gefapixant

[1]Merck & Co Presentation of gefapixant Phase 2b data at American Thoracic Society 2017

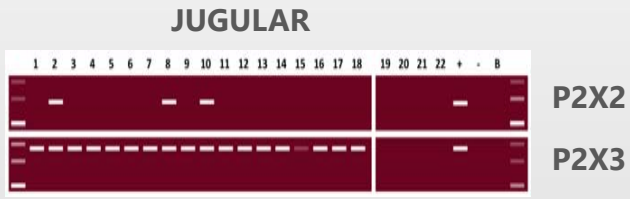
Taste effect profile significantly improved with BLU-5937 vs gefapixant

Validated Efficacy Target Reduces Clinical Risk

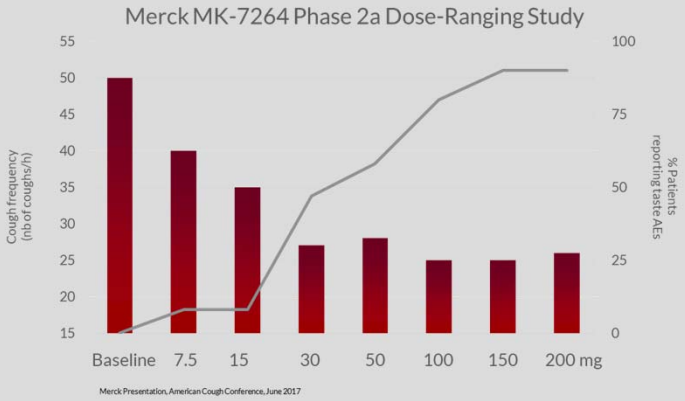


BLU-5937 Has Comparable Efficacy to MK-7264 in Animal Model

P2X3 is the Principal Receptor in the Upper Airway



Kwong et al 2008: Single-cell RT-PCR analysis of 22 lung specific guinea pig jugular neurons



Inhibition of P2X3 Linked to Efficacy and Inhibition of P2X2/3 Linked to Taste Effect in MK-7264 Phase 2 Study

Mechanistic, anatomy, animal and clinical data supportive of BLU-5937 having similar efficacy to MK-7264; Phase 2 starting in mid 2019

P2X3 Antagonist Competitive Landscape

	Merck MK-7264		Bayer BAY 1817080	Shionogi S-600918	BELLUS BLU-5937
Phase	3	3	2	2	1
Dosing	15 mg B.I.D.	45 mg B.I.D.	B.I.D.	Q.D.	~50 mg B.I.D.
Selectivity for P2X3 (vs. P2X2/3)	2 - 7 x	2 - 7 x	25 - 125 x *	175 x **	~ 1500 x
Anti-tussive effect†	Low	High	High	High	High
Effect on taste†	Low	High	Moderate/Low	Moderate/Low	Low/None

Best in class selectivity for P2X3 supports potential best in class profile

* Bayer selectivity range of 419 P2X3 antagonists described in Bayer US patent 10,183,937 for a total
** Shionogi selectivity value presented in Tobinaga et al., 2017 for a representative, single, optimized P2X3 antagonist generated by Shionogi (may not be S-600918)
† Effect on taste and anti tussive effect are company estimates based on animal data, clinical data, dose, human P2X3 potency and human P2X3 vs P2X2/3 selectivity

BLU-5937 is potential best-in-class profile in large, big pharma validated, cough market

Phase 1 Study Design

Key Objectives

- Assess Safety
- Assess Tolerability including Taste Effect
- Assess Pharmacokinetic Profile and Select Doses for Phase 2

Single Ascending Dose

N = 60 healthy adult subjects

6 cohorts of 10 subjects (8 active: 2 placebo) administered single dose

Single doses of 50mg to 1200mg

Food interaction tested in 1 cohort (200mg)

Multiple Ascending Dose

N = 30 healthy adult subjects

3 cohorts of 10 subjects (8 active: 2 placebo) administered multiple dose

Doses of 100, 200 and 400mg BID for 7 days

Phase 1 designed to assess safety, tolerability (including taste effect) and pharmacokinetic profile

Phase 1 Pharmacokinetic Profile and Dosing

Pharmacokinetic Profile

- Rapidly absorbed (Tmax ~1h)
- Systemic exposure increases dose proportionally up to 800 mg
- Plasma half-life of 4 to 9 hours
- No significant food effect
- No significant drug systemic accumulation

Excellent PK Profile

Dosing

Optimal projected therapeutic dose of:
50-100mg
twice daily

Based on achieving targeted receptor inhibition & efficacy seen in preclinical studies and on achieving comparative drug blood levels of clinically validated comparator

Excellent PK profile supporting estimated optimal efficacy dose of 50mg - 100mg twice daily

Phase 1 - Safe and Well Tolerated

Safe and Well Tolerated

- Incidence of adverse events on BLU-5937 (44%) similar to placebo (50%)
- No serious adverse event (SAE) reported
- No subject withdrew prematurely due to adverse event
- No clinically significant effect on vital signs and ECG
- No clinically significant trends of changes in laboratory tests

Side Effects

- At expected therapeutic doses (50-100mg; n= 24), no side effects of concern:
  - Taste alteration <5%
  - Headache <10%
  - Heartburn <5%

Safe and well tolerated particularly at projected optimal therapeutic doses

Minimal Taste Effect at Therapeutic Doses

	Incidence of Taste AEs (All SAD and MAD Cohorts)					
	50mg (n=8)	**100mg (n=16)**	**200mg (n=16)**	**400mg (n=16)**	**800mg (n=8)**	**1200 mg (n=8)**
Taste alteration	0 (0%)	1 (6%)	0 (0%)	6 (38%)	5 (63%)	2 (25%)
Partial taste loss	0 (0%)	0 (0%)	0 (0%)	1 (6%)	1 (13%)	0 (0%)
Complete taste loss	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Low incidence of taste AEs particularly at optimal projected therapeutic doses (1/24 = <5%)

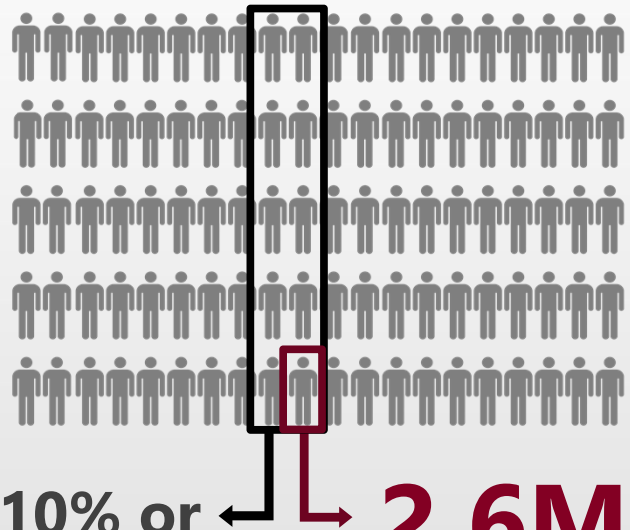
1 subject at 100mg BID had transient taste alteration (2 episodes on day 1 out of 7 days of dosing)

- No complete taste loss at any dose
- One subject out of 24 (4%) reported taste alteration at the anticipated therapeutic doses (50-100 mg)
- No taste loss or taste alteration at 200 mg
- Two subjects reported mild, transient partial loss of taste
- All taste adverse events were transient and sporadic in nature; one rated moderate, all others mild

No to minimal taste effect at projected therapeutic doses; taste AEs at supra-therapeutic doses are generally mild and transient in nature

Market

263M U.S. adults



Large addressable patient population

10% or 26.3M
chronic cough patients

2.6M
Primary addressable patients (idiopathic, treatment refractory > 1 yr)

Comparable products

ONCE DAILY Aptiom®

Linzess®

amitiza®

ADVAIR DISKUS®

Payer discussions and comparable product analysis support $300-600 per month pricing

Report 2018 Bluestar BioAdvisors (formerly known as Torreya Insights)

BLU-5937: addressing potential multi billion dollar refractory chronic cough market

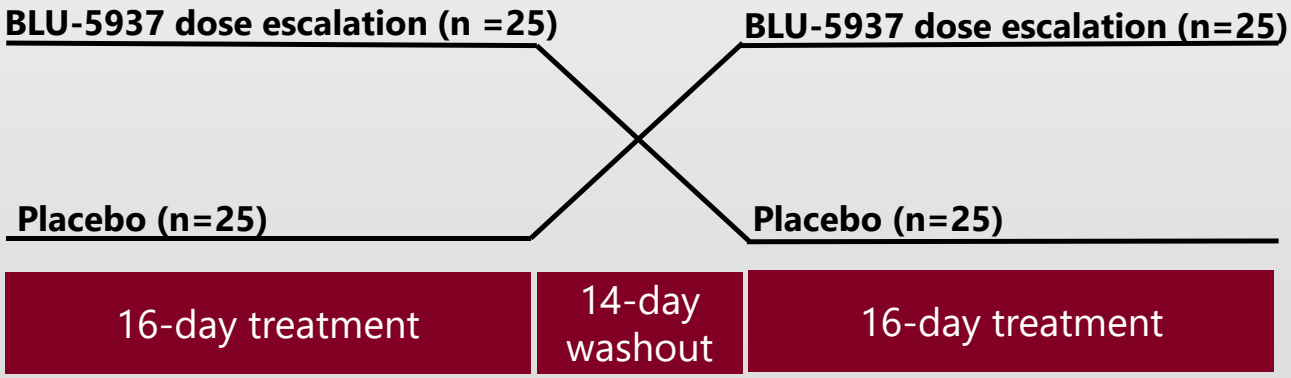
Key Development Milestones

Phase 1 data	IND Filing	Phase 2 start	Phase 2 Data
Q4 2018	Q1 2019	Mid 2019	Mid 2020
Excellent PK profile Safe and well tolerated Little to no taste effect	Investigational new drug filing with FDA	Crossover design study with approximately 50 patients in UK and US	Effect on cough and taste Dose selection for Phase 3
Completed	Completed	On Track	

Validated and efficient development plan

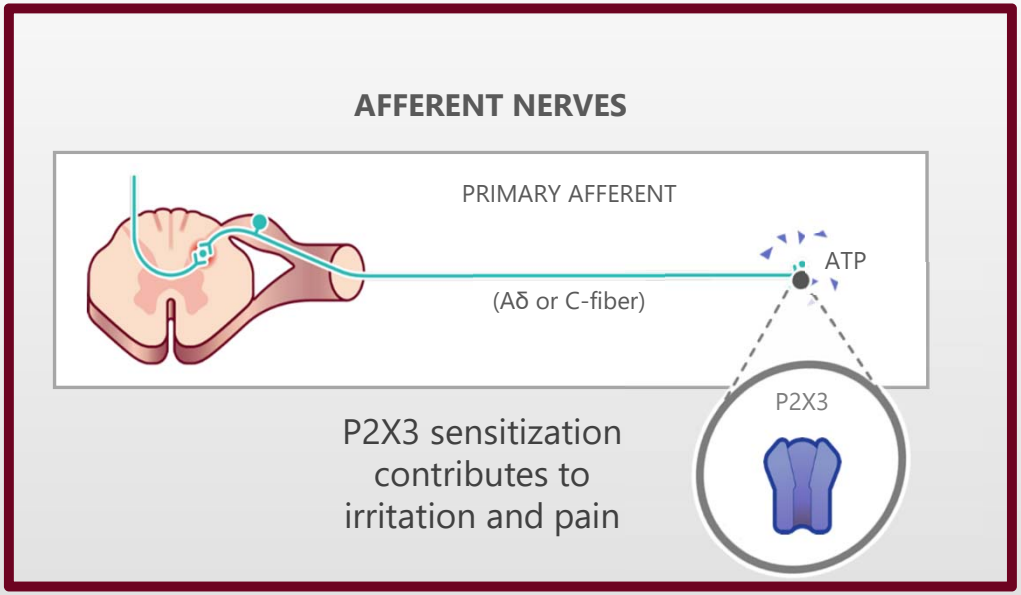
Phase 2 Study Design

- N≈50 unexplained/refractory chronic cough patients; >1 year coughing
- 12 sites in UK and US
- 4 dose levels with forced escalation at 4-day intervals (25/50/100/200mg twice daily)
- Primary endpoint: Reduction in awake cough frequency using cough recorder
- Safety and tolerability assessment, including taste effect



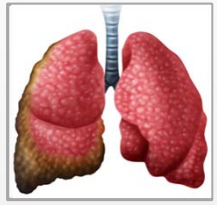
Phase 2 expected to start in mid 2019 with topline data in mid 2020

Potential for P2X3 Indication Expansion

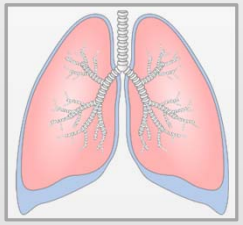


ENDOMETRIOSIS PAIN
Phase 2 study started by Merck

OBSTRUCTIVE SLEEP APNEA
Phase 2 study started by Merck



IPF COUGH
Phase 2 study conducted by Merck



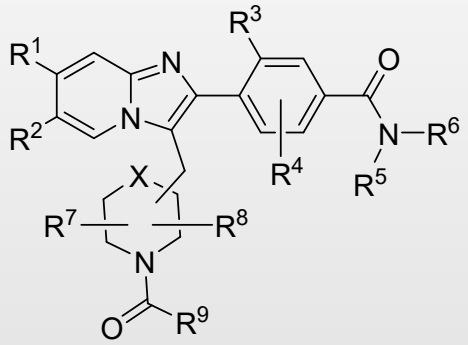
ACUTE COUGH
Phase 2 study conducted by Merck

UNDISCLOSED INDICATION
Bellus preclinical studies ongoing

Inhibition of P2X3 receptors has therapeutic potential in a number of other indications

Intellectual Property

- Broad and comprehensive patent estate covering BLU-5937 and related compounds
- Composition of matter patent for BLU-5937 and related imidazopyridines granted in the U.S., Europe, Japan and China
- Long patent life, expiring in 2034 (not including potential patent term extension)



Composition of matter IP in place to 2034

Stock and Financial Information

$35M Financing in December 2018

OrbiMed Healthcare Fund Management
NEW LEAF VENTURE PARTNERS
FIRST MANHATTAN CO.
SAMSARA BIOCAPITAL
FONDS de solidarité FTQ
ATP
AMZAK CAPITAL MANAGEMENT

Ownership

~40% institutional

~25% founding family offices

Company estimate based on financing participation, insider reporting and NOBO list

Clean capital structure

158M basic shares

175M fully diluted shares

C$48.9M / US$35.9M

cash position[1] provides

~2

years of cash runway

[1]as of December 31, 2018

Current cash provides ~2 years of capital through Phase 2

Milestones

Past Execution

- √ BLU-5937 preclinical proof of concept (June 2017)
- √ $20M financing (December 2017)
- √ BLU-5937 Phase 1 data with best in class taste profile (November 2018)
- √ $35M financing (December 2018)

2019 Milestones

Execution of BLU-5937 plan in chronic cough:

- ✓ Phase 2 US Investigational New Drug (IND) and UK Clinical Trial Authorization (CTA) cleared (Q1 2019)
- Phase 1 abstracts accepted at American Thoracic Society Conference (May 21) and American Cough Conference (June 8)
- First patient dosed in Phase 2 (mid 2019)

Competitor Catalysts:

- Merck MK-7264 pipeline: Phase 2 in pain related to endometriosis (2H 2019)
- Bayer P2X3 Phase 1 and Phase 2 data

Important executional and value driving milestones in 2019

Bellus HEALTH

Connect With Us

Follow our ticker: BLU.TO

Follow us on Twitter: @rbellini / @BELLUSHealth

Join our LinkedIn group

Check out our website and read our blog @ www.bellushealth.com

Join our mailing list