Strongbridge Biopharma plc

November 2017

STRONGBRIDGE BIOPHARMA

Forward-looking Statements

This document contains forward-looking statements relating to the Company's strategy, objectives, business development plans and financial position. All statements other than statements of historical facts included in this document, including, without limitation, statements regarding the Company's future financial position, strategy, anticipated investments, costs and results, status and results of clinical trials, size of patient population, plans, outcomes of product development efforts, and objectives of management for future operations, may be deemed to be forward-looking statements. You can identify forward-looking statements by words such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of those terms, and similar expressions that convey uncertainty or future events or outcomes.

These forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause the Company's actual results, performance, or achievements or industry results to be materially different from those contemplated, projected, forecasted, estimated or budgeted, whether expressed or implied, by these forward-looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results. A discussion of certain of these risks may be found in the filings the Company makes with the U.S. Securities and Exchange Commission. None of these forward-looking statements constitutes a guarantee of the future occurrence of such events or of actual results. These statements are based on data, assumptions, and estimates that the Company believes are reasonable.

The forward-looking statements contained in this document are made only as of the date hereof. Except as otherwise required by law, the Company expressly disclaims any obligation or undertaking to release publicly any updates of any forward-looking statements contained in this document to reflect any change in its actual results, assumptions, expectations or any change in events, factors, conditions, or circumstances on which any forward-looking statement contained in this document is based.

Global rare disease biopharmaceutical company with commercial and late-stage portfolio

KEVEYIS® dichlorphenamide 50 mg tablets	RECORLEV™ levoketoconazole	Veldoreotide
COMMERCIAL	PHASE 3	PHASE 2 (SHORT-ACTING FORMULATION)
1st, only FDA-approved drug for ultra-rare Primary Periodic Paralysis*	Potential next-generation cortisol inhibitor for Cushing's Syndrome	Potential next-generation somatostatin analog, Acromegaly
ORPHAN	ORPHAN	ORPHAN

Well capitalized to fund planned operations to cash flow positive

Highly **experienced** rare disease team: clinical and commercial

*FDA-approved treatment for hyperkalemic, hypokalemic, and related variants of primary periodic paralysis

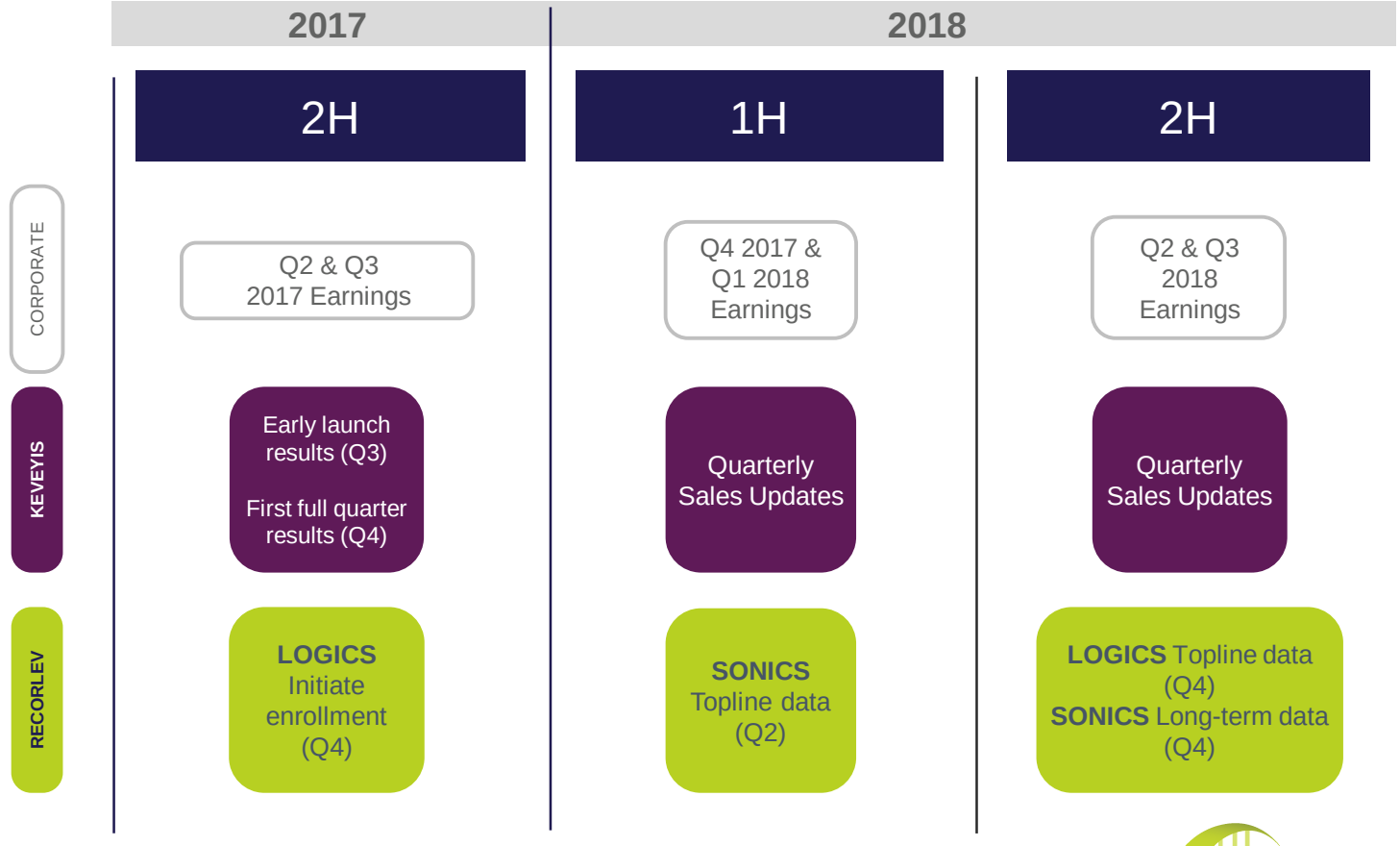
The management team is highly experienced in managing orphan and ultra-rare disease assets

Matthew Pauls President, CEO, Director	Shire · Johnson & Johnson · Bristol-Myers Squibb · Insmed
Fred Cohen, M.D. Chief Medical Officer	Aptalis · Johnson & Johnson · Eurand · Lilly
Brian Davis Chief Financial Officer	tengion · NEOSE
Stephen Long Chief Legal Officer	ReedSmith · BARD · Warner Lambert
Robert Lutz Chief Business Officer	Shire · medgenics · Goldman Sachs
Dave Bonnell SVP Sales & Marketing	Shire · AstraZeneca · Schering-Plough
Peter Valentinsson SVP, Global Technical Operations	NPS Pharma · Schering-Plough
Scott L. Wilhoit SVP, Global Market Access & Patient Services	NPS Pharma · Johnson & Johnson · PTC · Marathon · Auxilium

Building a portfolio of therapeutically-aligned vertical franchises in rare diseases

Rare **Neuromuscular**	Rare **Endocrine**	Rare disease franchise #3
KEVEYIS® dichlorphenamide 50 mg tablets Primary Periodic Paralysis	**RECORLEV** Cushing's Syndrome	Business development opportunities
	VELDOREOTIDE Acromegaly	

Anticipated milestones – 2H17 & 2018



Keveyis

dichlorphenamide

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Keveyis: the first and only FDA-approved therapy for primary periodic paralysis

FDA-approved treatment for hyperkalemic, hypokalemic, and related variants of primary periodic paralysis

Primary periodic paralysis: a spectrum of rare, chronic, genetic neuromuscular disorders

Causes recurrent, progressive, and debilitating episodes of muscle weakness and temporary paralysis

Triggers may include potassium, carbohydrates, rest after exercise, cold exposure, stress

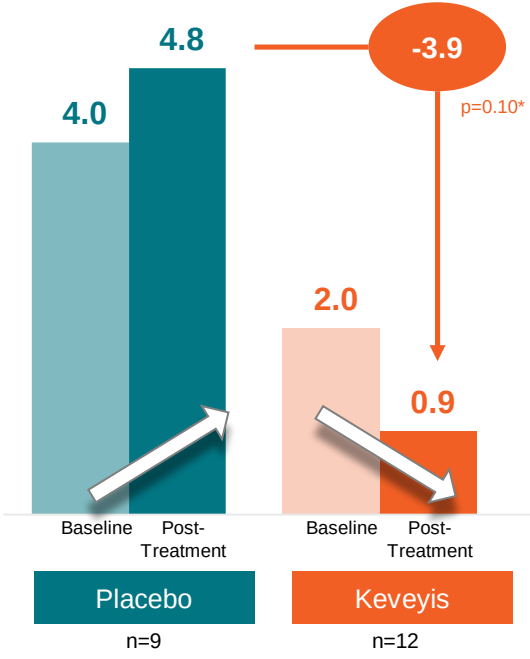
Symptoms: clumsiness, extreme fatigue, weakness, palpitations, pain. As patients age, muscle weakness can become permanent

Source: Charles G, Zheng C, Lehmann-Horn F, Jurkatt-Rott, Levitt J. Characterization of hyperkalemic periodic paralysis: a survey of genetically diagnosed individuals. *J Neurol*. 2013;260:2606-2613. Cannon SC. Channelopathies of skeletal muscle excitability. *Compr Physiol.* 2015;5:761-790 Cavel-Greant D, Lehmann-Horn F, Jurkat-Rott K. The impact of permanent muscle weakness on quality of life in periodic paralysis: a survey of 66 patients. *Acta Myol.* 2012;31:126-133.

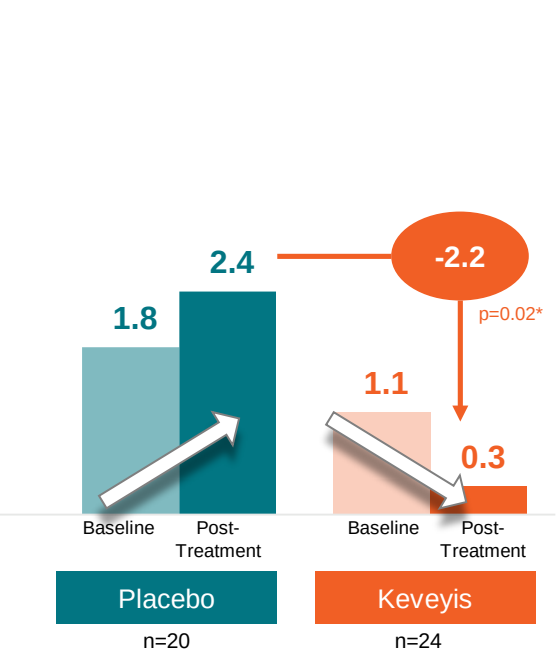
Treatment with Keveyis decreased weekly attack rates

Study 1: decreased weekly attack rates from baseline to week 9

Hyperkalemic



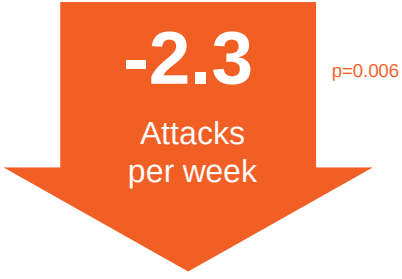
Hypokalemic



Study 2

Hyperkalemic

Mean decrease in attack rates relative to placebo



Mean weekly attack rate at baseline was 3.8 (n=31)

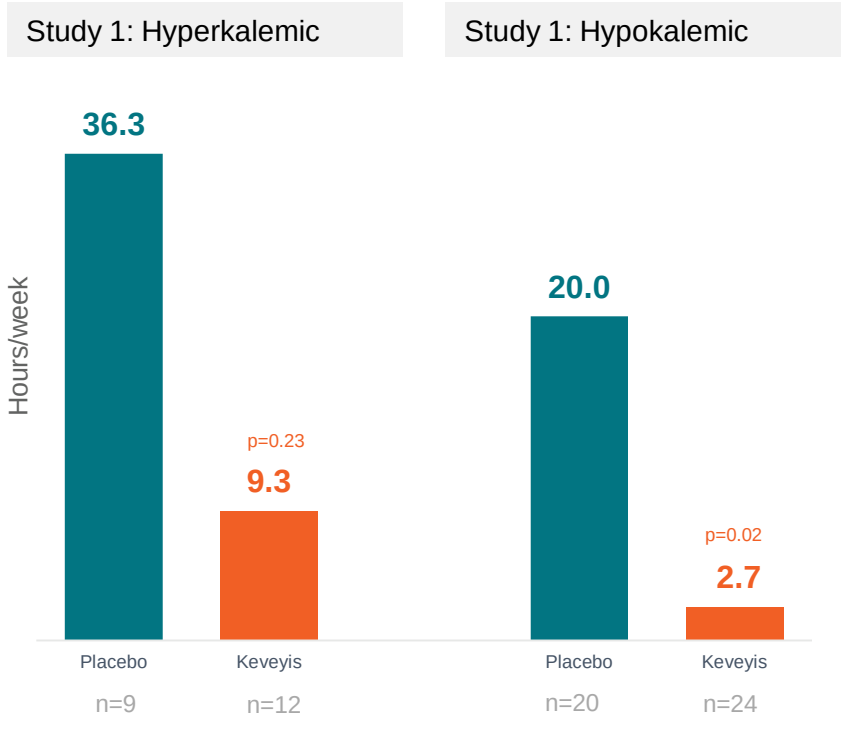
Study 1: Sansone VA, et al. Neurology 2016;86:1408-1416
Study 2: Tawil R, et al. Ann Nuerol. 2000; 47:46-53.

*Treatment effects (DCP-placebo) are computed as the median of the bootstrap distribution of the treatment group difference in median response

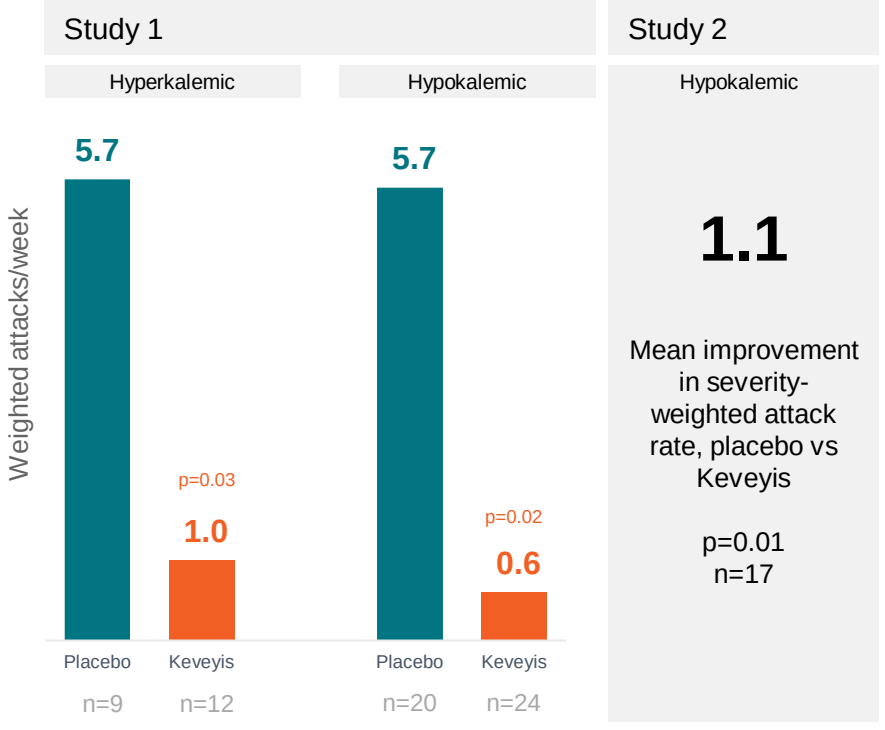
Reduced duration of weekly attacks and decreased attack severity

Average values for each group over weeks 2-9

Decreased weekly attack duration



Decreased severity-weighted attack rate



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Study 2: Tawil R, et al. Ann Nuerol. 2000; 47:46-53.

Secondary EPs in Study 1

Safety and tolerability

Adverse reactions (≥5% and more common than in patients treated with placebo in Study 1)

	Adverse Reaction	Keveyis n=36 (%)	Placebo n=29 (%)
Nervous system disorders	Paresthesia	44	14
	Cognitive disorder	14	7
	Dysgeusia	14	0
	Confusional state	11	0
	Headache	8	7
	Hypoesthesia	8	0
	Lethargy	8	0
	Dizziness	6	0
Gastrointestinal disorders	Diarrhea	6	3
	Nausea	6	0
General disorders and administration site conditions	Fatigue	8	0
	Malaise	6	0
Investigations	Weight decreased	6	0
Musculoskeletal and connective tissue disorders	Muscle spasms	8	0
	Arthralgia	6	3
	Muscle twitching	6	0
Respiratory	Dyspnea	6	0
	Pharyngolaryngeal pain	6	0
Skin	Rash	8	0
	Pruritus	6	0

KEVEYIS prescribing information.

PPP market opportunity

Patient population

Approximately 4,000 – 5,000 diagnosed patients*
(2x previous estimate)

Diagnosis can be challenging, often takes 20+ years from symptom onset

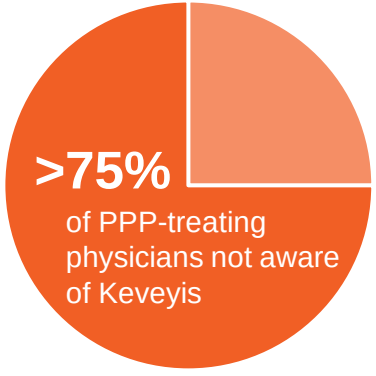
Underdeveloped market

Limited historical investment in disease awareness / education

No other FDA-approved treatment options**

Low Keveyis awareness

Unaided awareness



* Based on Strongbridge Biopharma analysis of medical claims database
**FDA-approved treatment for hyperkalemic, hypokalemic, and related variants of primary periodic paralysis

Source Data on file

Keveyis: The formula for early launch success

SALES FORCE

- 12-person team
- Combined 20 orphan drug launches
- Nearly 80 years of collective rare disease sales experience

ADVANCED ANALYTICS

- Multiple data sources
- Predictive modeling
- Identify diagnosed
- Identify undiagnosed

PATIENT SERVICES

STRONGBRIDGE™ CareConnection

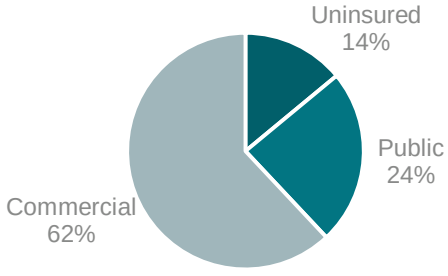
- Case management
- Financial assistance
- Adherence/Compliance
- Advocacy connections

HCP EDUCATION

- Conference presence
- Speaker bureau
- Branded webinars
- Disease education tools

Keveyis market access status: current patients

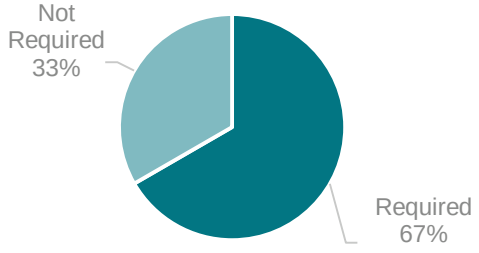
Payer mix



Broad Payer Coverage

Top 5 national insurers covering > 48 million lives	Largest PBM's covering > 111 million lives
Over 8 Medicare Part D plans covering > 23 million lives	Top regional plans covering > 27 million lives

Payer Prior Authorization Requirements



Dosing

AVERAGE

124 mg/day

2.48 tabs/day

Average Age of Patients

43 Years

Annualized Price

Starting dose: 100 mg per day	**$109,500**
Max dose: 200 mg per day	**$219,000**

Source: PANTHERx with Navience Healthcare Solutions and Strongbridge Biopharma Analysis

Early launch results and current trends are promising, leading to immediate increased commercial investment

Pre-Existing Patients	New Start Forms	Net Product Sales
72 of 80 Converted to Strongbridge Commercial Supply and PAP	**>80 New Start Forms**	**Q2 2017: $1.5M** **Q3 2017: $2.5M**

Significant Market Demand + Expanded Market Size = Immediate Increased Commercial Investment

- Expanding experienced, high-performing sales team from 12 to 21 employees by end of November 2017

- Increasing near-term investment in:
  - PPP disease-state education tactics
  - Keveyis branded promotional initiatives

- Nationwide rollout of large-scale PPP genetic testing program (no cost to eligible patients)
- Launched in October 2017

Recorlev

levoketoconazole

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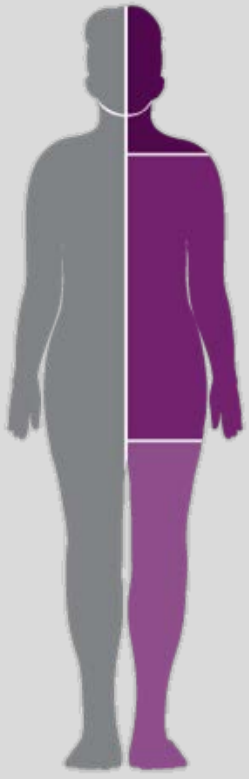
Cushing's syndrome: rare endocrine disorder defined by elevated cortisol

Typically caused by pituitary adenomas



- Psychosis, impaired memory, sleep disturbance, depression, anxiety
- Heart attacks, stroke, high blood pressure, high cholesterol, vein clots
- Overweight/obesity, facial, neck and abdominal fat accumulation, diabetes
- Muscle and skin atrophy
- Osteoporosis

2-4X increased mortality rate

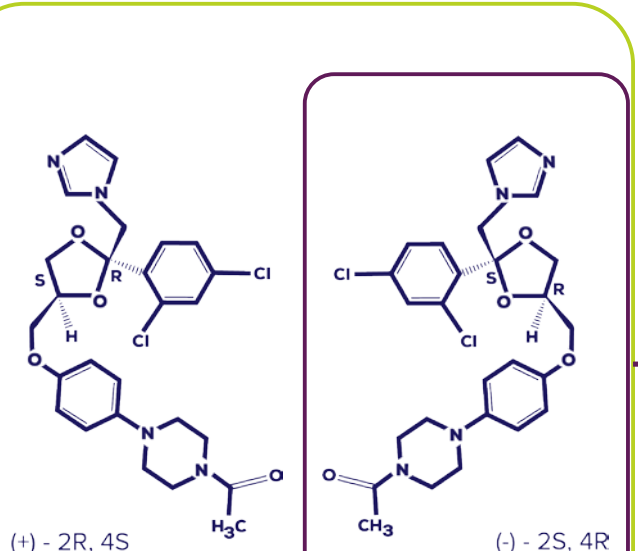
Source: Company sponsored research and published research including Feelders RA, Hofland LJ. (J Clin Endoc Metab. 2013;98(2):425-438) and Daly et al. (J Clin Endoc Metab 2006)

Recorlev (levoketoconazole) is the pure 2S,4R enantiomer of ketoconazole

KETOCONAZOLE

Two enantiomers combined

Not approved in the US to treat Cushing's Syndrome



RECORLEV

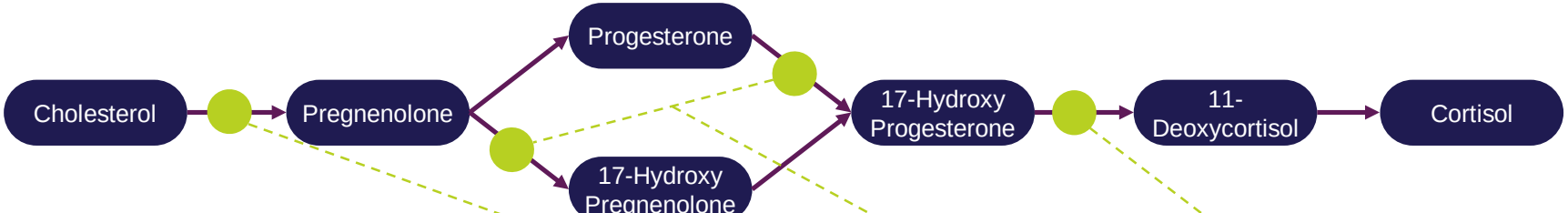
Single enantiomer only

US/EU orphan designation for Cushing's

New chemical entity FDA 505(b)(2)

Previously in Phase 2 for diabetes (n=118)

Levoketoconazole is the active half of ketoconazole responsible for cortisol synthesis inhibition



	CYP11A1	CYP17A1	CYP11B1
2R,4S-ketoconazole enantiomer	25,080	595.7	1,365
Ketoconazole, racemate	2,267	57.77	138.6
Levoketoconazole*	**1,447**	**27.94**	**51.65**

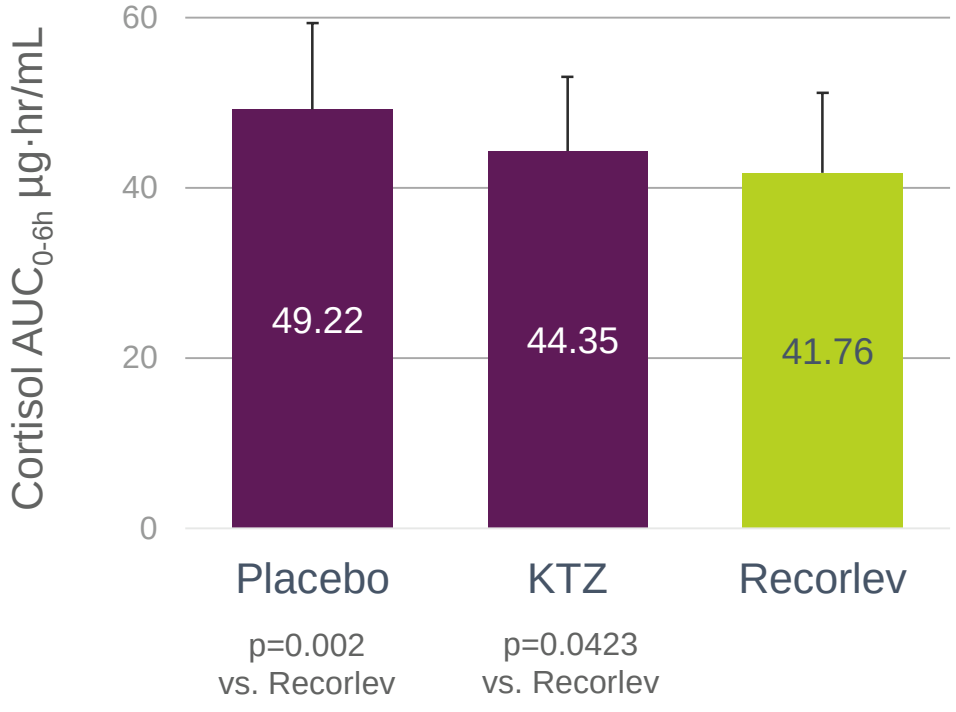
10-26x

1.6-2.7x

50% inhibitory concentration, nmol/L; lower number indicates greater inhibition potency

Source: Auchus RJ, U. of Michigan, data on file; *The active ingredient in RECORLEV

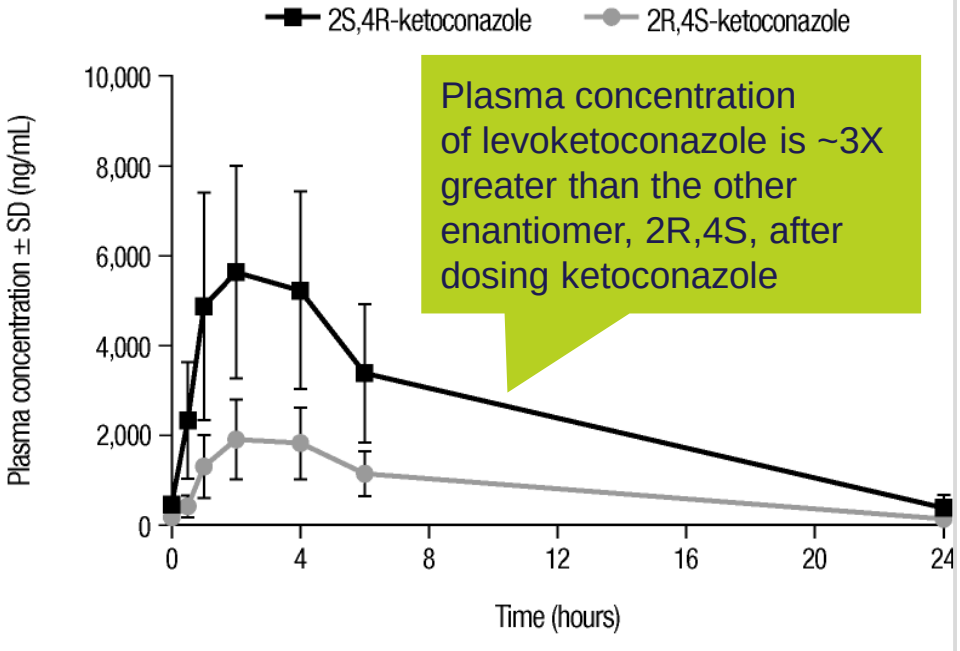
Recorlev significantly suppresses serum cortisol in healthy subjects



Source: AA34510, 24 subjects dosed with 400 mg Recorlev or ketoconazole for 4 days; mean serum cortisol AUC +SD

Recorlev has potential for reduced liver toxicity

PK implies less liver extraction of levoketoconazole



Less potent inhibition of CYP7A

50% inhibition concentration, nmol/L

Levo-KTZ	2,400
2R,4S-KTZ	195

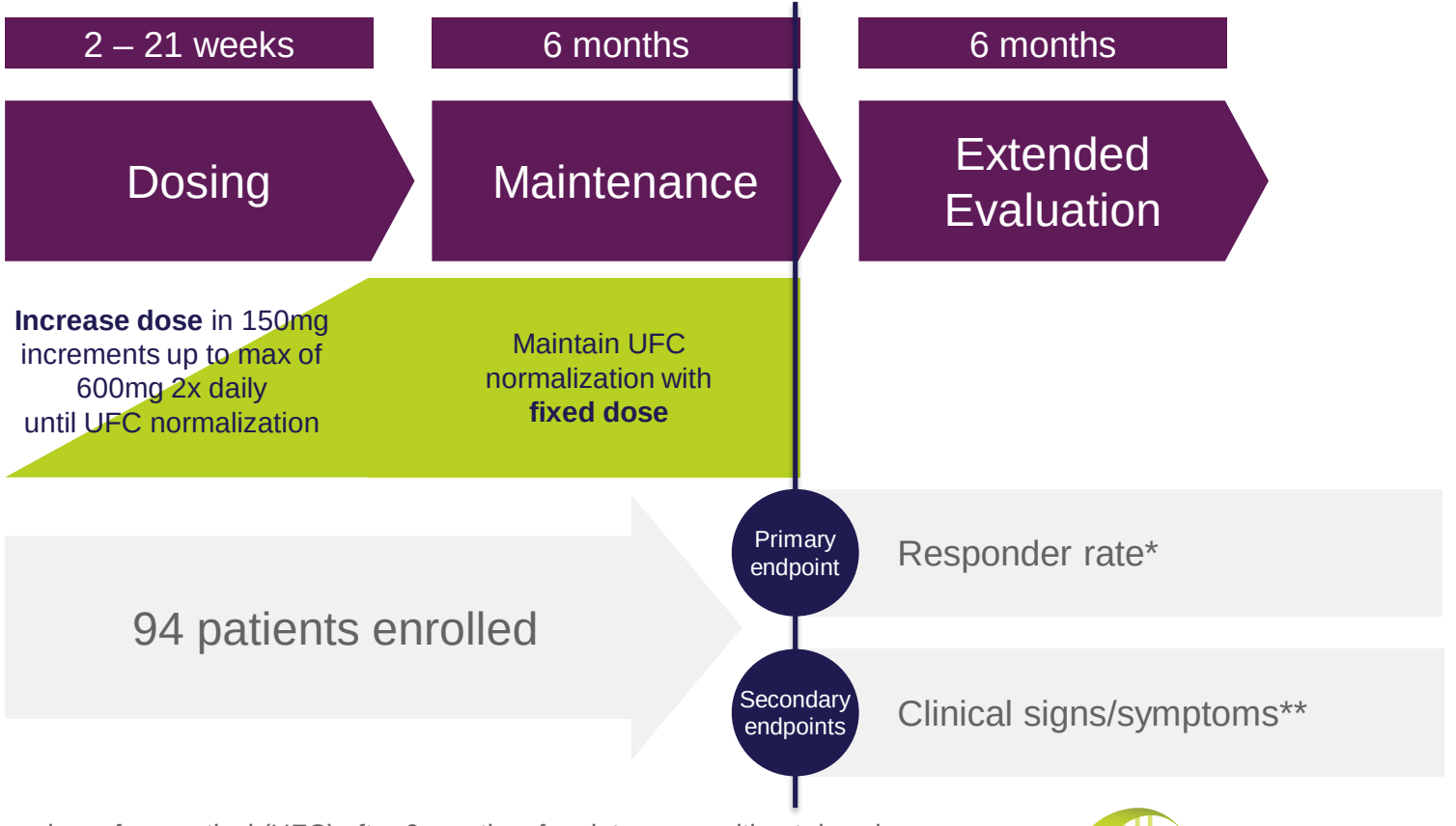
12x

Levoketoconazole is a 12-fold **less potent** inhibitor of CYP7A, the rate-limiting enzyme for bile acid synthesis.

Bile acids aid fat and vitamin absorption and help eliminate toxins and drugs, including Recorlev.

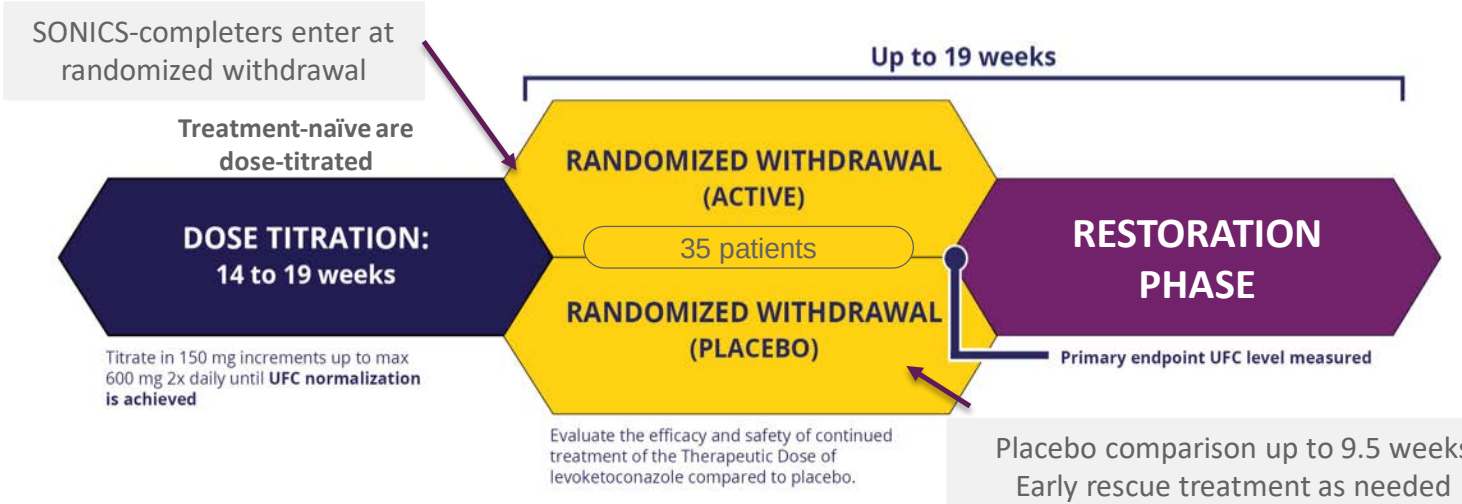
Source: Rotstein DM et al., J Med Cem 35, 2818-2825, 1992 and Strongbridge data on file

Recorlev Phase 3 Clinical Trials
SONICS - single arm, open-label study in 94 patients



* Normalized 24-hour urinary free cortisol (UFC) after 6 months of maintenance without dose increase
** HbA1c, glucose, blood pressure, lipid profile, CRP, weight, quality of life measures

Recorlev Phase 3 Clinical Trials
LOGICS: double-blind, randomized, placebo-controlled study in 35 patients



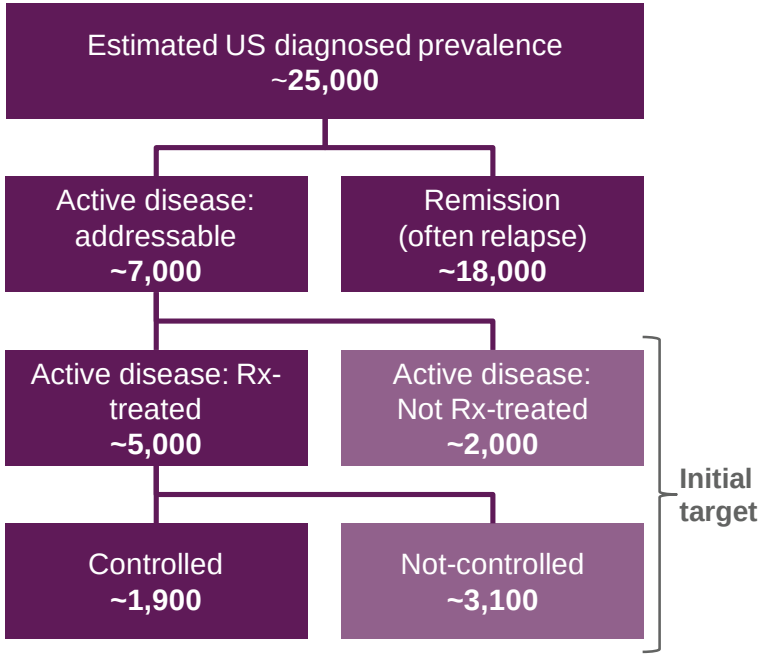
Primary endpoints

Proportion of subjects with loss of response (24-hour urinary free cortisol {UFC}) to levoketoconazole on withdrawing to placebo compared with continued levoketoconazole treatment from second to final randomized withdrawal visit.

LOGICS

Cushing's syndrome market opportunity

Patient population



Suboptimal treatments

Highly fragmented market, significant off-label use

Unmet need for new treatment

- Broad FDA-approved indication
- Low rates of hyperglycemia, reproductive disorders, etc.
- Simple dosing and titration

RECORLEV

Potential next-generation cortisol inhibitor

Pure single enantiomer of ketoconazole

Potential for lower liver toxicity

Source: Company sponsored research and published research including Daly et al. (J Clin Endoc Metab 2006)

Early engagement with Cushing's Syndrome community & market development initiatives

Patient advocacy

CSRF Share. Aid. Care.
CUSHING'S SUPPORT & RESEARCH FOUNDATION

PituitaryNetworkAssociation

Multi-language patient education brochures

World Alliance of Pituitary Organizations

Sponsor of the Annual Patient Summit

Disease awareness

Cushing Syndrome on "The Balancing Act"

Attend major endocrine conferences

Create/implement market development initiatives for Cushing's Syndrome

KOL engagement

Scientific Advisory Board

Richard Auchus MD PhD University of Michigan	**Beverly Biller MD** Massachusetts General Hospital	**Thierry Brue MD PhD** University of Marseille
Frederic Castinetti MD PhD University of Marseille	**Maria Fleseriu MD** Oregon Health & Science University	**Eliza Geer MD** Memorial Sloan-Kettering Cancer Center
Anthony Heaney MD PhD University of California, Los Angeles	**Aart Jan van der Lely MD PhD** Erasmus University	**Shlomo Melmed MBChB** Cedars-Sinai Medical Center
Richard Feelders MD PhD Erasmus University	**Christian Strasburger MD** Charite University, Berlin	**Susan Webb MD PhD** University of Barcelona

Veldoreotide

STRONGBRIDGE BIOPHARMA

Veldoreotide LAR: A novel, multi-receptor somatostatin analog

BACKGROUND

Acquired immediate-release formulation of veldoreotide in 2015 and focused initial R&D on long-acting reformulation

10/2016: Successfully formulated for convenient, at-home, subcutaneous administration using PLGA microspheres

Unique formulation may provide additional IP

Data through Phase IIa: potential differentiated benefits from currently approved somatostatin analogues

- Comparable maximal GH suppression to octreotide
- Reduced impact on gallbladder function, bile acid production, and GI motility in rodents
- Reduced impact on hormonal responses to mixed meals in healthy subjects

SSAs: Somatostatin Analogs

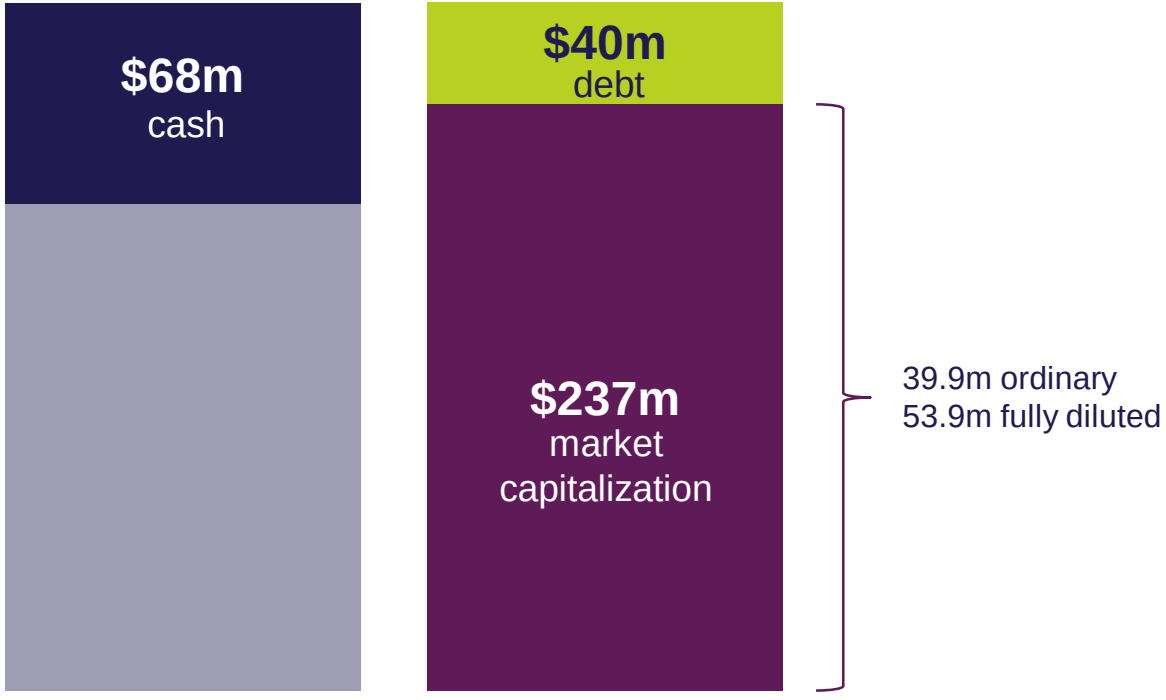
About Strongbridge

STRONGBRIDGE BIOPHARMA

Intellectual property and orphan exclusivity

	IP		Orphan exclusivity	
	US	EU	US	EU
Keveyis	Exploring options	US rights only	Aug 2022	US rights only
Recorlev	2030: Method of use: reducing CRP levels and systemic inflammation Under review: Method of use: reducing cortisol levels	2026: Method of use: treating Cushing's syndrome	7 years	10 years
Veldoreotide	Filed patent application for novel formulation		7 years	10 years

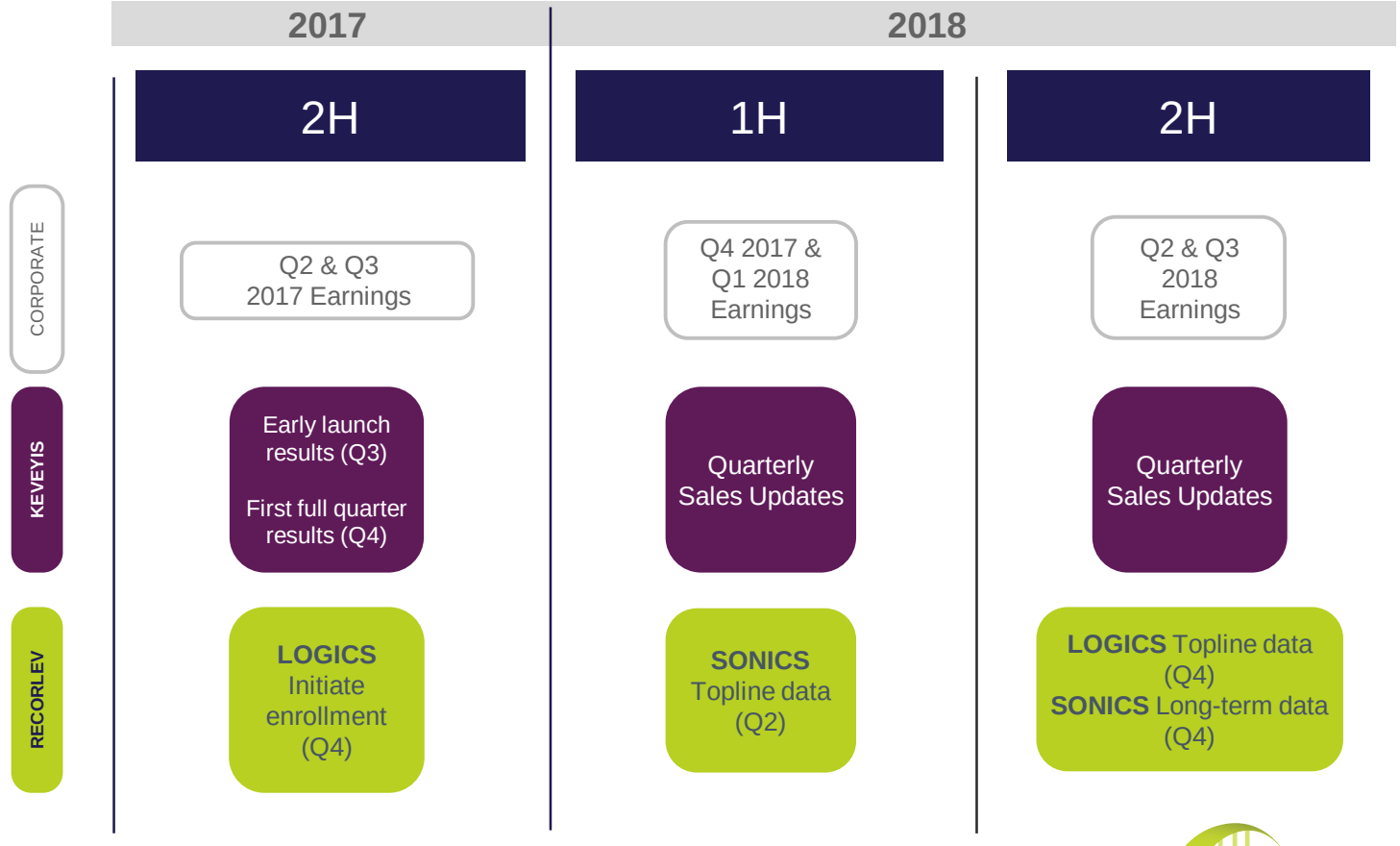
Strong balance sheet to support operations



Well capitalized to fund planned operations to cash flow positive

Market capitalization as of November 13, 2017.
Pro forma cash as of September 30 and shares outstanding includes impact of October 4 equity financing.

Anticipated milestones – 2H17 & 2018



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