



Corporate Presentation

David J. Mazzo, PhD

President and Chief Executive Officer

Forward-looking statements advisory

This Investor Presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements reflect management's current expectations, as of the date of this presentation, and involve certain risks and uncertainties. All statements other than statements of historical fact contained in this Investor Presentation are forward-looking statements. The Company's actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors. Factors that could cause future results to differ materially from the recent results or those projected in forward-looking statements include the "Risk Factors" described in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 14, 2019, as subsequently amended on March 19, 2019, and in the Company's other periodic filings with the SEC. The Company's further development is highly dependent on, among other things, future medical and research developments and market acceptance, which are outside of its control. You are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date of this Investor Presentation. Caladrius does not intend, and disclaims any obligation, to update or revise any forward-looking information contained in this Investor Presentation or with respect to the matters described herein.

Caladrius Biosciences: Uniquely positioned for near-term success

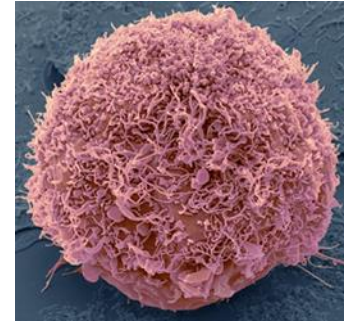
- **Late-stage therapeutics development company**
 - Three principal development programs; 2 designated “breakthrough”*
 - CLBS12*, CLBS14-CMD, CLBS14-NORDA*
- **Financially stable and debt-free**
 - Strong balance sheet (~\$43 million cash as of Dec. 31, 2018)
 - Low operating cash burn (cash projected through May 2020)
- **Multiple value creating events within the next 18 months**
 - Key regulatory and data milestones across the pipeline

Experienced executive team with broad domain-specific expertise

David J. Mazzo, PhD President and Chief Executive Officer	35+ years of experience in all aspects of large pharma (Merck, Baxter, RPR, HMR, Schering-Plough) and emerging biopharma (Chugai USA, Regado); successful international drug development across all therapeutic areas, international capital raising and business transactions; Director and former Chairman of EyePoint Pharma
Douglas W. Losordo, MD Executive VP, Global Head of R&D and Chief Medical Officer	25+ years of experience as a leader in cell therapy research and development; renowned clinician with noteworthy academic (Tufts, Northwestern, NYU) and industry (Baxter) credentials; pioneer of CD34+ cell therapy
Joseph Talamo, CPA, MBA Senior VP and Chief Financial Officer	25+ years of experience as a versatile finance executive with strong accounting/audit background (KPMG) and leadership roles in publicly traded pharmaceutical development and commercial-stage companies (OSI Pharmaceuticals, BMS)
Todd Girolamo, JD, MBA Senior VP, General Counsel and Corporate Secretary	25+ years of legal experience as a practicing attorney (Cahill, Gordon & Reindel; Reid & Priest) as well as finance and biotechnology industry experience (Oppenheimer, CIBC, Leerink Swann)
John D. Menditto Vice President, Investor Relations and Corporate Communications	20+ years of experience as an investor relations and corporate communications professional with a major focus on healthcare and life science (Novartis, Medco Health Solutions, Argos Therapeutics)

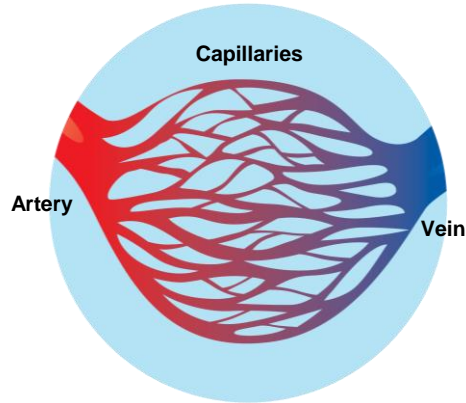
Ischemic Repair

Autologous CD34+ cells

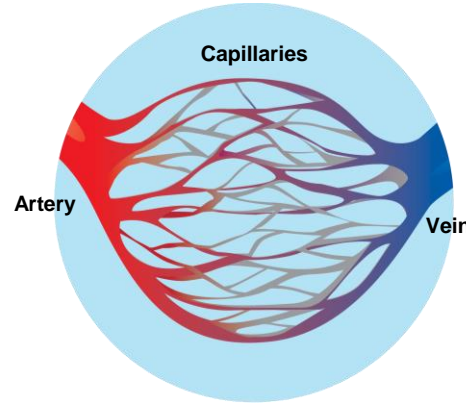


CD34+ cells promote angiogenesis of the microvasculature

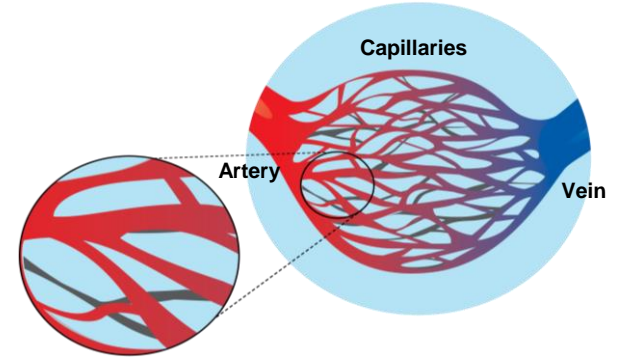
Normal microvasculature



Compromised microvasculature



Augmented microvasculature post-CD34+ cells introduction



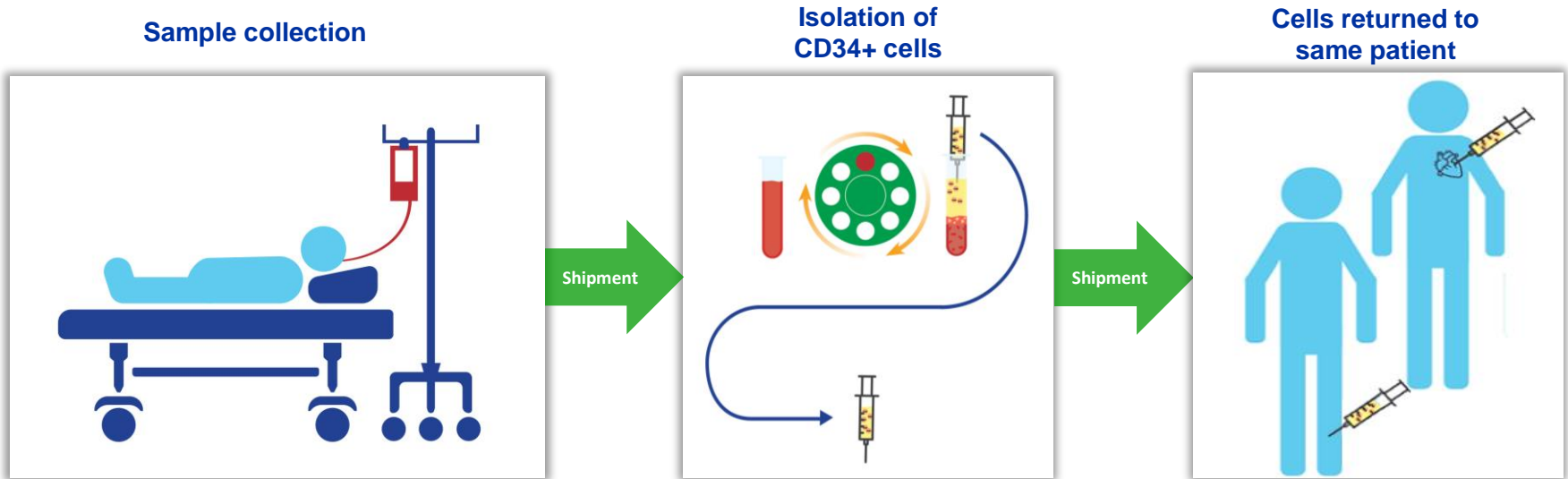
- **>700 subjects studied in randomized double-blind placebo-controlled trials provide consistent evidence of therapeutic benefit and tolerance**
 - Improved mortality, reduced chest pain and increased exercise tolerance in refractory angina¹
 - Reduced amputation in critical limb ischemia²
 - Improved function in claudication³

¹Losordo et al. *Circ Res* 2011.; Povsic et al. *JACC Cardiovasc Interv.* 2016.

²Losordo et al. *Circ Cardiovasc Interv* 2012.

³Losordo et al. US study (n=17); Pending publication

Simple, scalable and economical autologous cell therapy process



Maximum of 4 days from donation to injection

- Day -3:** Patient dosed with GCSF to mobilize CD34+ cells from bone marrow to peripheral blood; avoids bone marrow aspiration
- Day 1:** Sample collection via apheresis; shipment to processing center
- Day 2:** CD34+ cells isolated and prepared for patient injection; shipment to clinic
- Day 3-4:** Cells returned to patient through intramuscular, intracoronary or intramyocardial injection, depending on indication

CD34+ cell therapy patent estate provides for long-term exclusivity

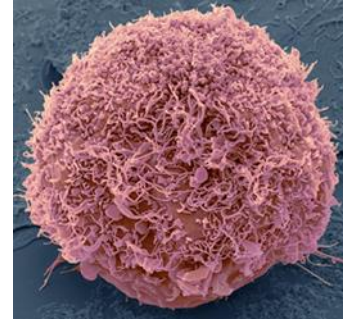
Composition of matter protection to 2031+

- 7 U.S. and 23 foreign composition of matter and methods patents granted
 - Japan, Russia, Canada, and the EU5 countries-France, Germany, Great Britain, Italy, and Spain
- 2 U.S. and 3 foreign patents pending
- Key claims cover a pharmaceutical composition of a therapeutic concentration of non-expanded CD34+/CXCR4+ stem cells together with stabilizing serum to repair an injury caused by vascular insufficiency
- Issued and pending claims can be applied to broad range of conditions caused by underlying ischemia
 - For example: CLI, CMD, NORDA, AMI, CHF and ischemic brain injury
- Expiries of granted patents ranging from 2031 – 2039 including patent term extension

CLBS12

Critical Limb Ischemia (CLI)

(Japan)



CLI represents an expedited commercial opportunity in Japan

- Initiation in Japan prompted by early definition of accelerated path to regulatory approval
- Estimated >\$100M initial commercial opportunity based on significant pharmaco-eco benefits
- CLBS12 could be a marketed product in Japan as early as 2021
- Positive results from ongoing trial in Japan should support expedited development in USA/EU

CLI Represents a Multi-billion Dollar Global Market Opportunity

	Japan	USA	Europe*
No-option CLI patients eligible for CLBS12 (not eligible for revascularization)	~51,000	~300,000	~560,000

*Europe:

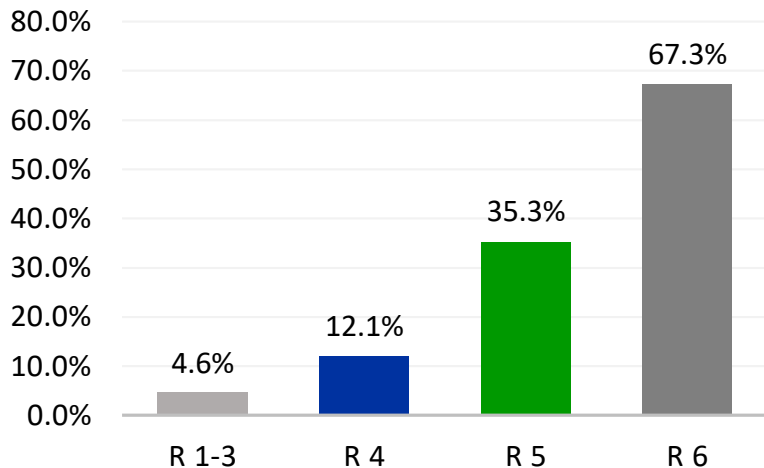


Source: Independent Third-party analysis; Full report available upon request

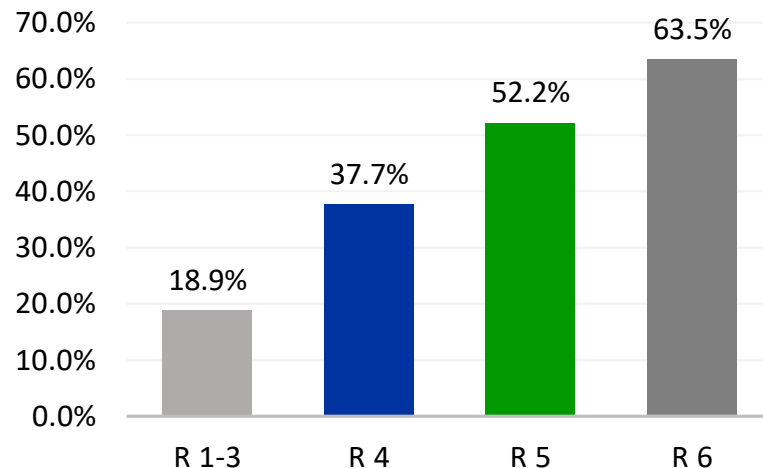
CLI amputation and mortality rates increase with disease severity

Retrospective outcomes analysis based upon
Rutherford ("R") classification (n=41,882)

4 Year Amputation Rates



4 Year Mortality Rates



R 1-3: CLI-free

R 4: Debilitating rest pain

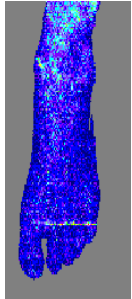
R 5: Minor tissue loss non-healing ulcer; focal gangrene with diffuse pedal ischemia

R 6: Functional foot no longer salvageable

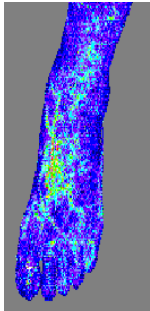
Source: Reinecke H., European Heart Journal, 2015 Apr 14;36(15):932-8.

Single CD34+ cell therapy administration appears to reverse CLI

Actual CLI Patient
Laser Doppler Imager

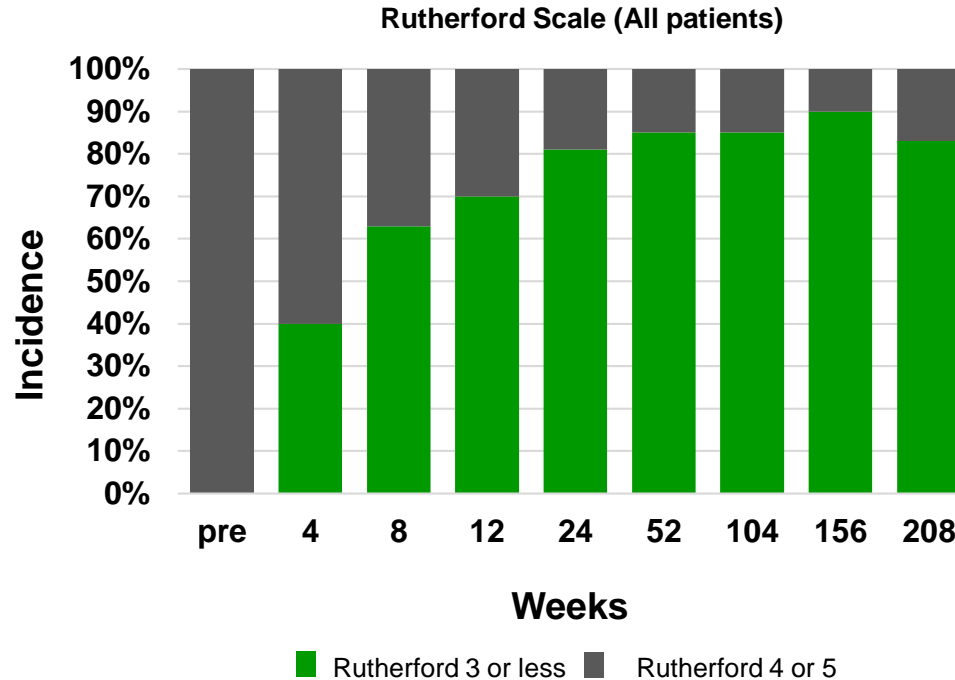


Before Treatment



Week 12 Post-treatment

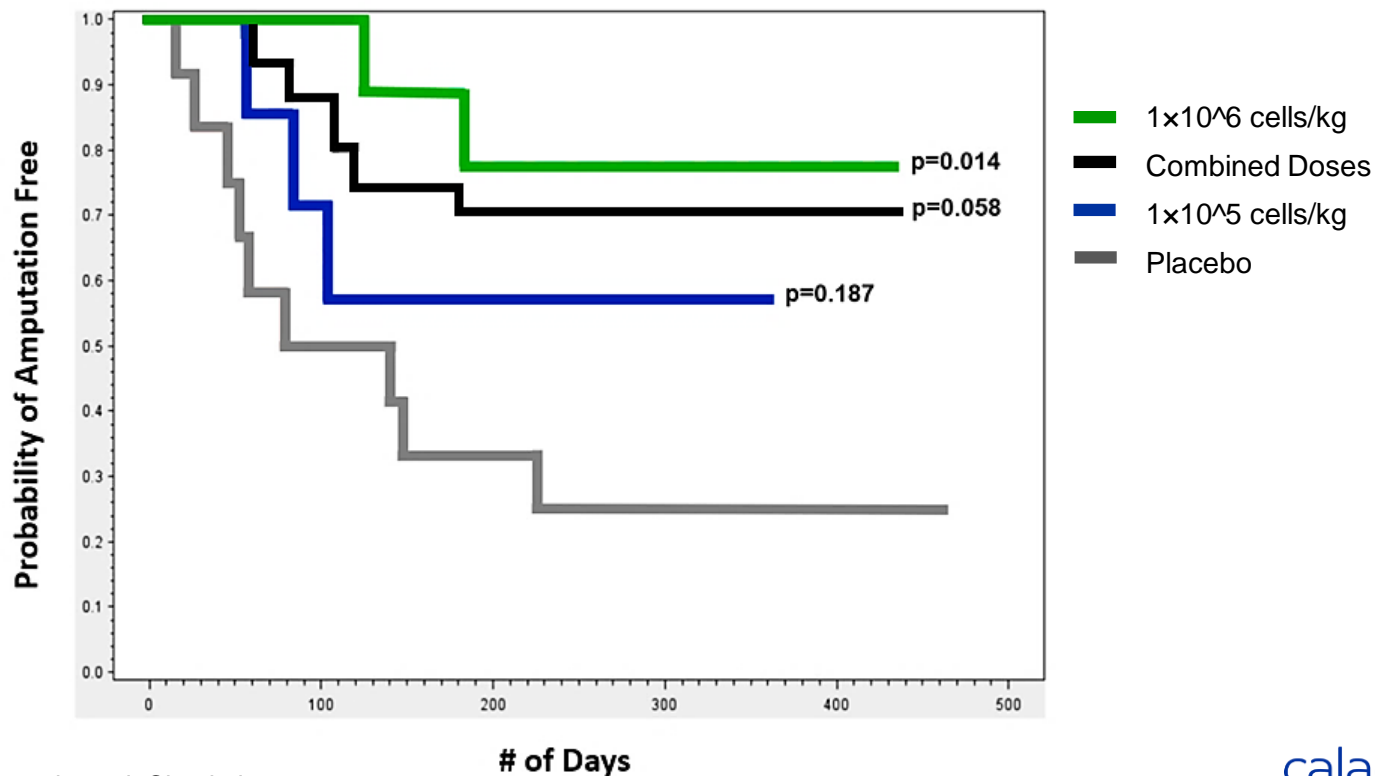
Single Center, Open-Label, Dose-Escalation Clinical Trial (n=17) - Japan



Source: Kinoshita et al, Atherosclerosis 2012

Single CD34+ cell therapy administration increases amputation free survival

Double-blind, Randomized, Placebo-controlled Clinical Trial (n=28)



Source: Losordo et al, Circulation 2012

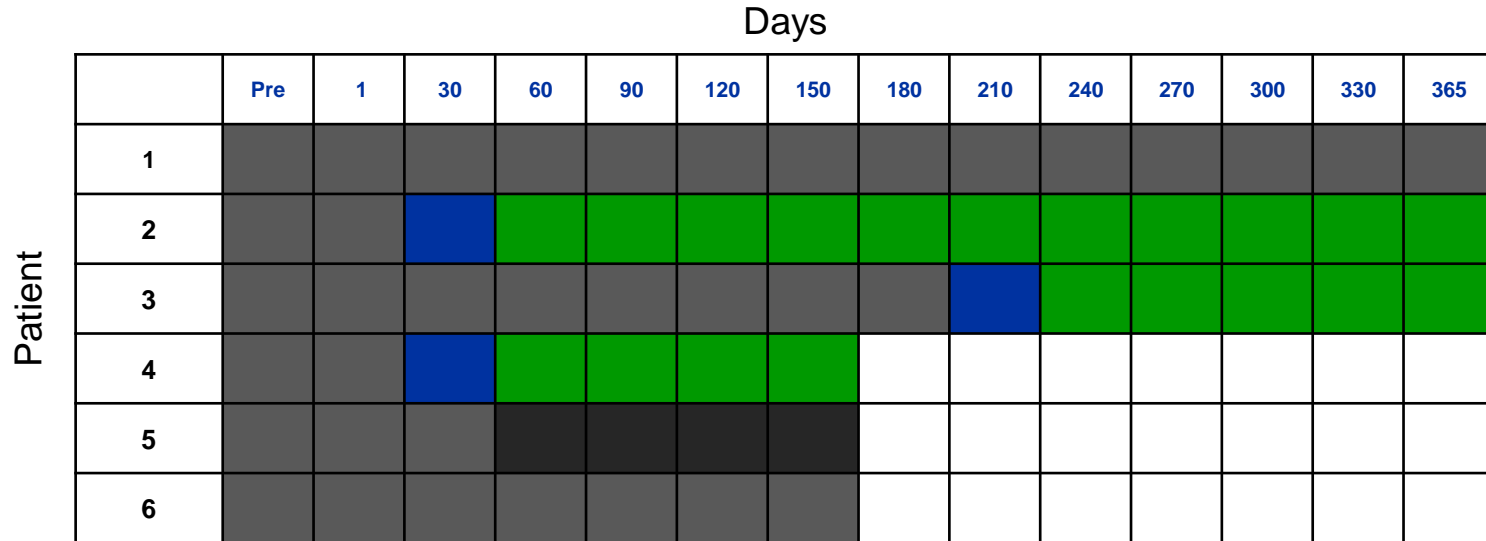
CLBS12 eligible for early conditional approval in Japan based on ongoing study

Awarded SAKIGAKE (“breakthrough”) designation with priority review

Design	<ul style="list-style-type: none">▪ Prospective, open label, controlled, randomized trial (1:1 w/SOC) CLI patients
Primary Endpoint	<ul style="list-style-type: none">▪ Time to continuous CLI-free status (2 consecutive monthly visits, adjudicated independently)
Study Size	<ul style="list-style-type: none">▪ 30 patients with no-option CLI plus 5 patients with Buerger’s Disease; ~10 centers in Japan
Dose	<ul style="list-style-type: none">▪ Up to 10^6 autologous CD34+ cells/kg (CLBS12) per affected limb
Control/Comparator	<ul style="list-style-type: none">▪ Standard of Care drugs approved in Japan<ul style="list-style-type: none">▪ Including antiplatelets, anticoagulants and vasodilators▪ Choice of pharmacotherapy will be made by the investigators according to protocol
Mode of administration	<ul style="list-style-type: none">▪ Intramuscular, 20 injections in affected lower limb in single administration
Timing/Cost	<ul style="list-style-type: none">▪ Top-line results expected 1H2020▪ Study funded to completion in current budget projections

Preliminary Buerger's Disease cohort results in Japan are compelling

- Natural progression of Buerger's Disease is continual progression
- CLBS12 treatment has resulted in 50% of patients achieving a positive outcome to date



Rutherford 4 or 5

Rutherford 6

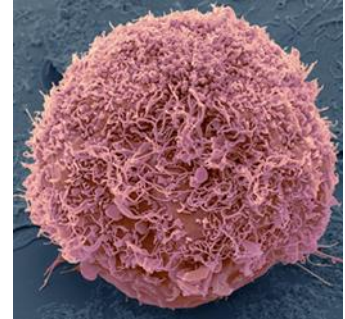
CLI-free

Continuous CLI-free

CLBS14-CMD

Coronary Microvascular Dysfunction (CMD)

(USA)



CMD is an unmet medical need with significant market potential

- Nearly 50% of patients with Coronary Artery Disease have a CMD component
- Multi-billion dollar global opportunity based on significant pharmaco-eco benefits

Patients Potentially Eligible for CLBS14-CMD

USA ¹	Europe ²	Japan ^{3,4}
~8,300,000	~6,000,000	~1,000,000

Europe:



¹Cleveland Clinic/AHA (American Heart Association)

²Townsend, N, et al.; *Cardiovascular disease in Europe: epidemiological update 2016*, *EHJ*, Volume 37, Issue 42, 7 November 2016, Pages 3232–3245

³Kita, T; *Coronary heart disease risk in Japan – an East/West divide?*, *EHJ Supplements*, Volume 6, Issue suppl_A, 1 March 2004, Pages A8–A11

⁴Ueshima, H, et al.; *Cardiovascular Disease and Risk Factors in Asia*, *AHA Journal*, December 16/23, 2008, Volume 118, Issue 25

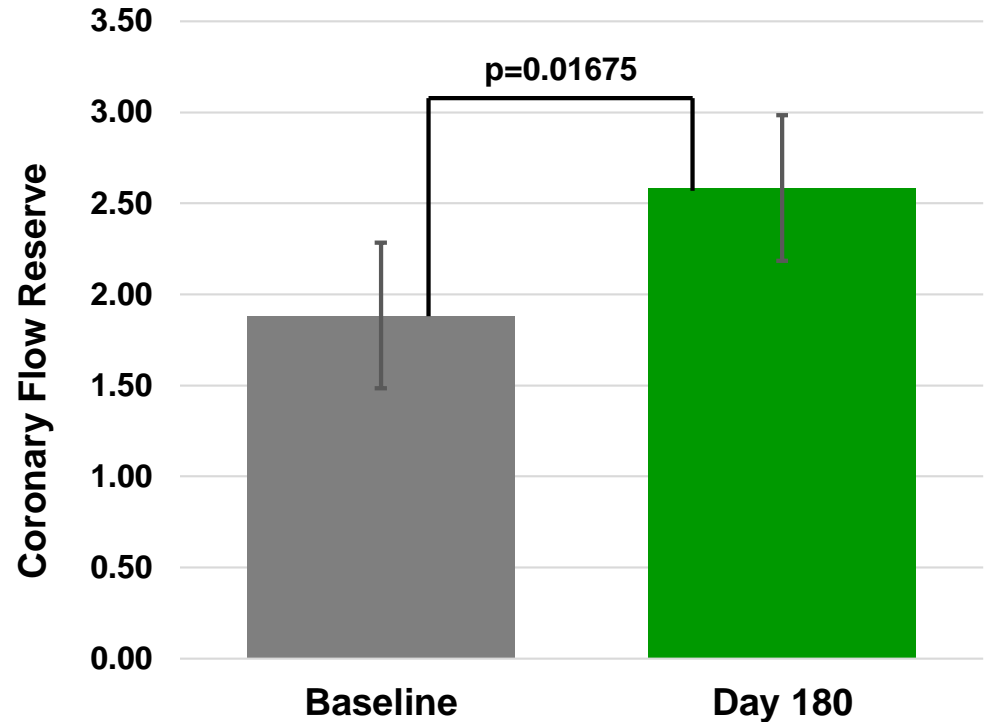
CLBS14-CMD proof-of-concept study (ESCaPE-CMD)

Enrollment completion expected in May 2019

Design	<ul style="list-style-type: none">Interventional, open label, proof-of-concept trial
Primary Endpoint	<ul style="list-style-type: none">Safety and the evaluation of adverse events
Secondary Endpoints	<ul style="list-style-type: none">Changes from baseline to 6 months for coronary flow reserve, endothelial-dependent microvascular function, time to angina; other cardiovascular metrics
Study Size	<ul style="list-style-type: none">20 patients at 2 centers in the USA (Cedars Sinai, LA & Mayo Clinic)
Dose	<ul style="list-style-type: none">Up to 300×10^6 CD34+ cells
Control	<ul style="list-style-type: none">No control arm
Mode of administration	<ul style="list-style-type: none">Single intracoronary infusion
Timing/Cost	<ul style="list-style-type: none">Top-line results expected by end of 2019Study funded to completion in current budget projections (NIH grant)

Preliminary ESCaPE-CMD results are encouraging

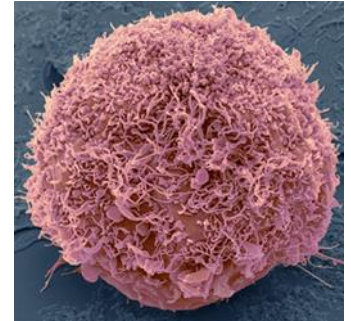
- **N=6 (of target 20)**
- **Coronary flow reserve is defined as the ratio of maximal coronary blood flow to resting coronary blood flow¹**
- **Increase in coronary flow reserve correlates with improvement in symptoms**
- **Complete results expected end of 2019**



¹ Collins P. (1993). Coronary flow reserve. British heart journal, 69(4), 279–281.

CLBS14-NORDA

No Option Refractory Disabling Angina (NORDA)
(USA)



NORDA presents a multi-billion dollar global market opportunity

- Currently, there are no effective treatments options for NORDA
- Patients with NORDA often have multiple costly comorbidities

Patients Eligible for CLBS14-NORDA

USA	Europe	Japan
<100K	~50K	~30K

Europe:



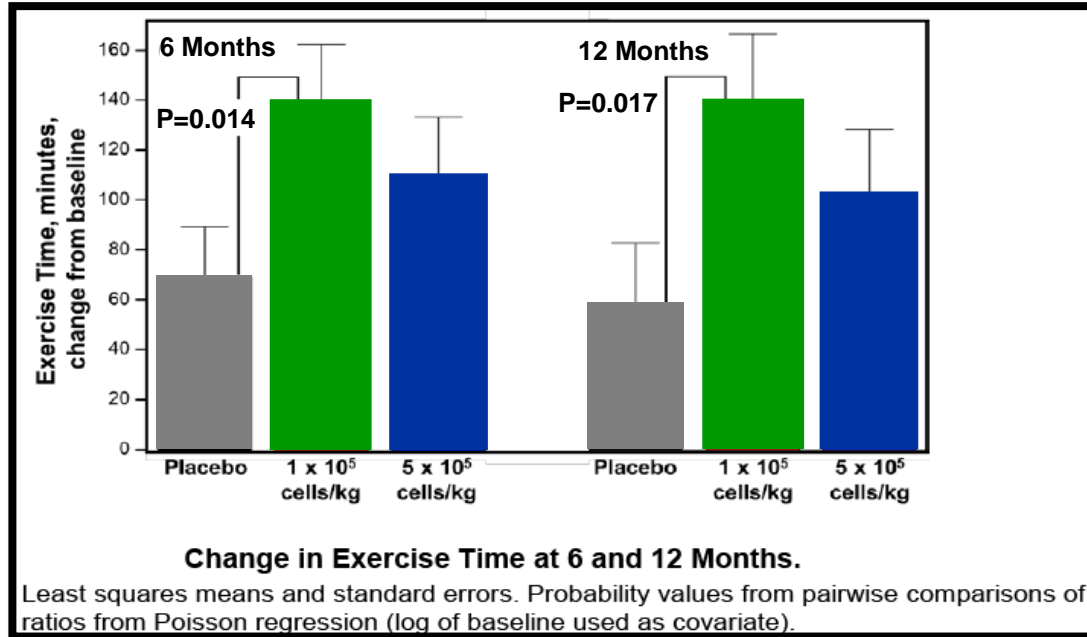
Source: Independent Third-party analysis; Full third-party report available upon request

CLBS14-NORDA Phase 3 development status

- **Data license obtained from Shire for previous clinical studies**
 - Avoids need to repeat previous work and positions program in Phase 3
 - CLBS owns IP for product
- **CLBS holds an open and active IND**
- **RMAT (Regen. Medicine Advanced Therapy) designation awarded 2Q18**
 - Granted by the FDA for therapies intended to treat serious conditions
 - *Therapy must show preliminary evidence of addressing unmet medical need*
 - Similar to breakthrough therapy designation; includes potential for accelerated approval
- **Phase 3 protocol design discussions reaching conclusion with FDA**
 - Finalization expected 2Q19 with first patient targeted for fall 2019

Single administration of CLBS14-NORDA improves exercise time

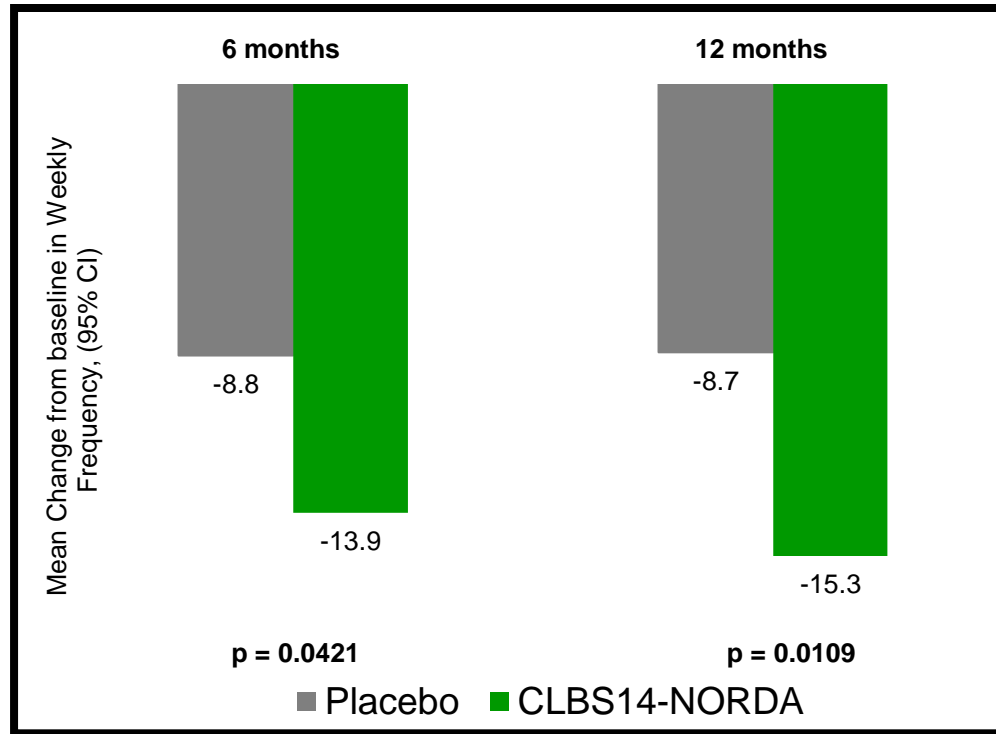
Compelling results from the randomized, placebo-controlled, double blind Phase 2 Study (n=168)



Source: Losordo, D.W., et al., Circ Res, 2011

Single administration of CLBS14-NORDA reduces angina frequency

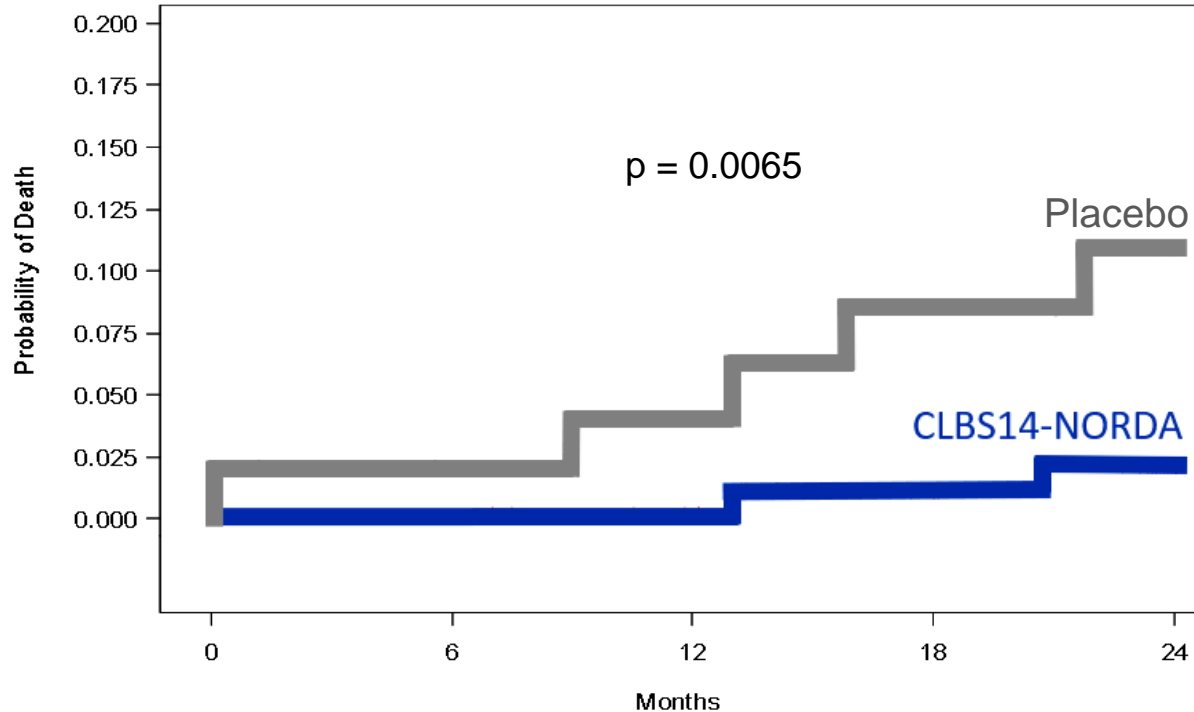
Compelling results from the randomized, double blind, placebo-controlled, Phase 2 Study (n=168)



Source: Losordo et al, Circ Res 2011

Single administration of CLBS14-NORDA reduces mortality

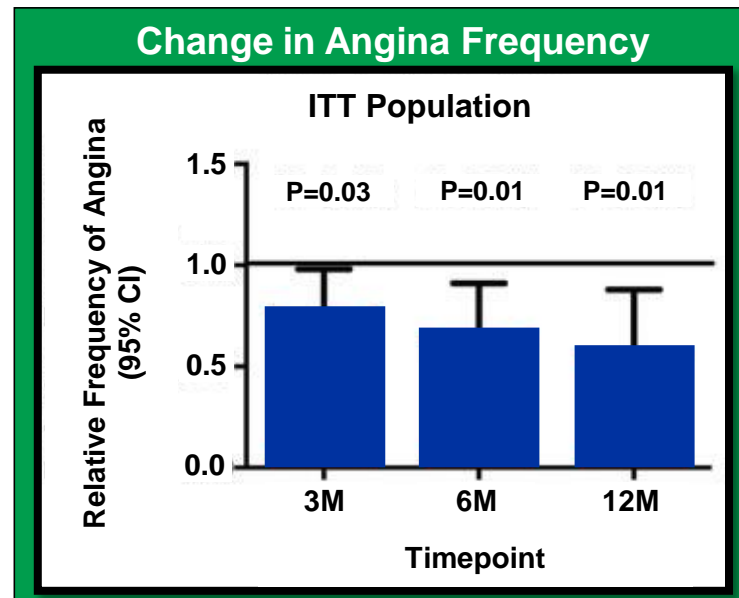
Compelling results of the randomized, double blind, placebo-controlled, Phase 2 Study (n=168)



Source: Losordo, Circ Res 2011

Combined CLBS14-NORDA clinical database corroborates success potential

- Phases 1, 2, & partial 3 studies^{1,2,3} completed (combined n=304)
- Two independent compelling patient-level pooled-analyses:
 - *European Heart Journal*, January 2018 (Henry, et al)
 - *Cardiovascular Revascularization Medicine*, June 2018 (Velagapudi, et al)
- Same NORDA definition in all studies



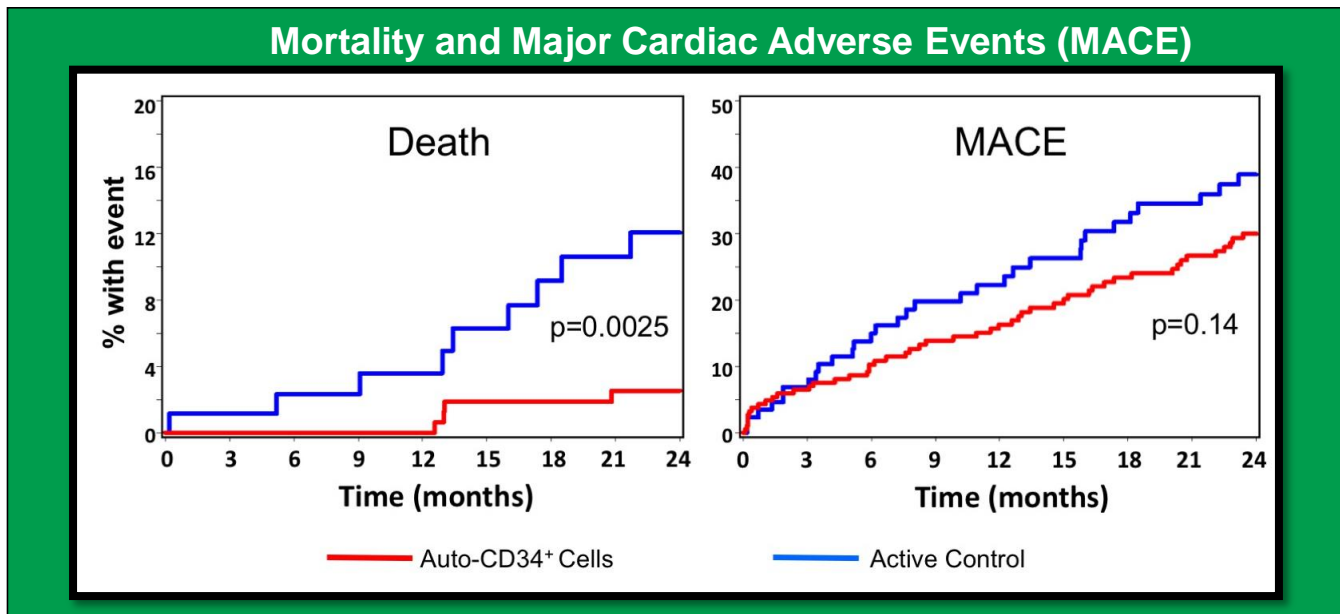
¹ Losordo, D.W., et al, *Circulation*, 2007, 115(25) pp. 3165-3172

² Losordo, D.W., et al, *Circ Res*, 2011, 109(4) pp. 428-36.

³ Povsic, T.J., et al, *JACC Cardiovasc Interv*, 2016 9(15) pp. 1576-85.

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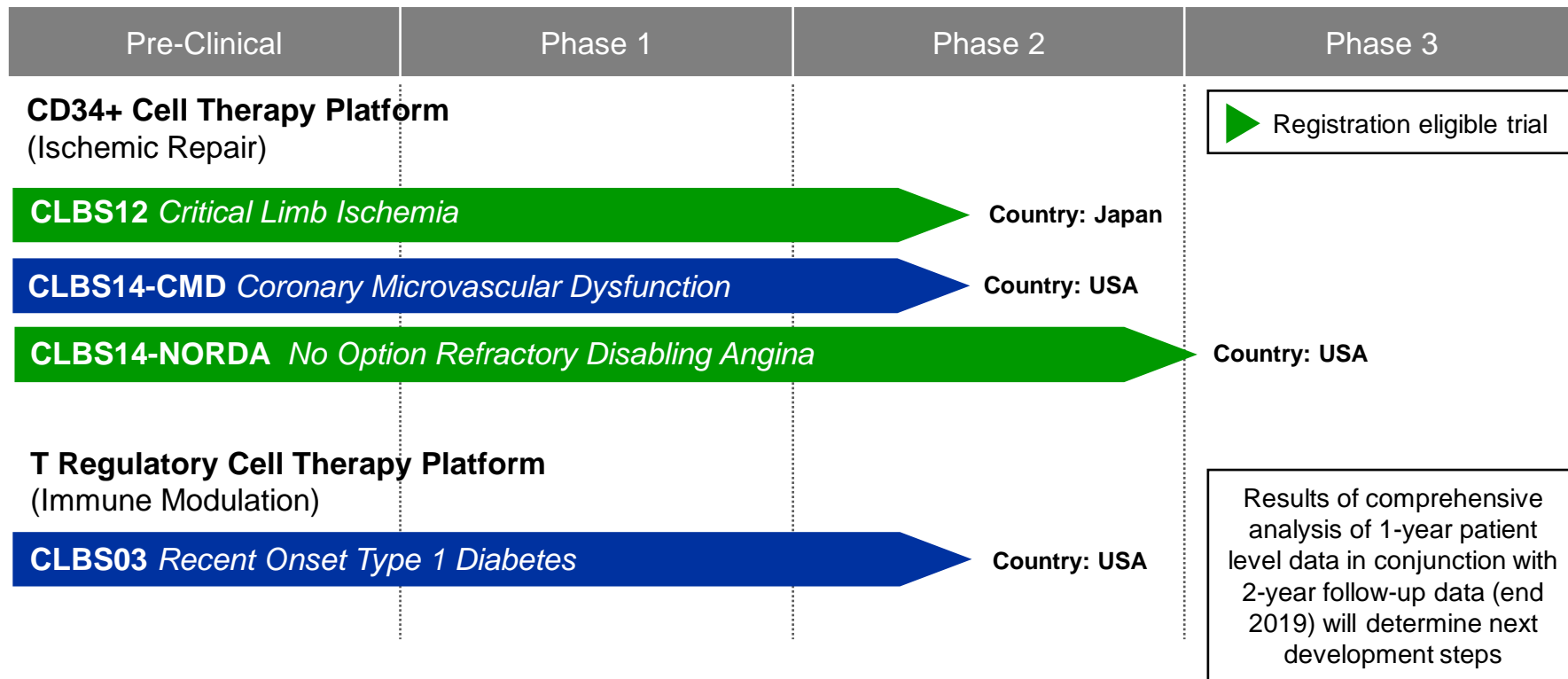


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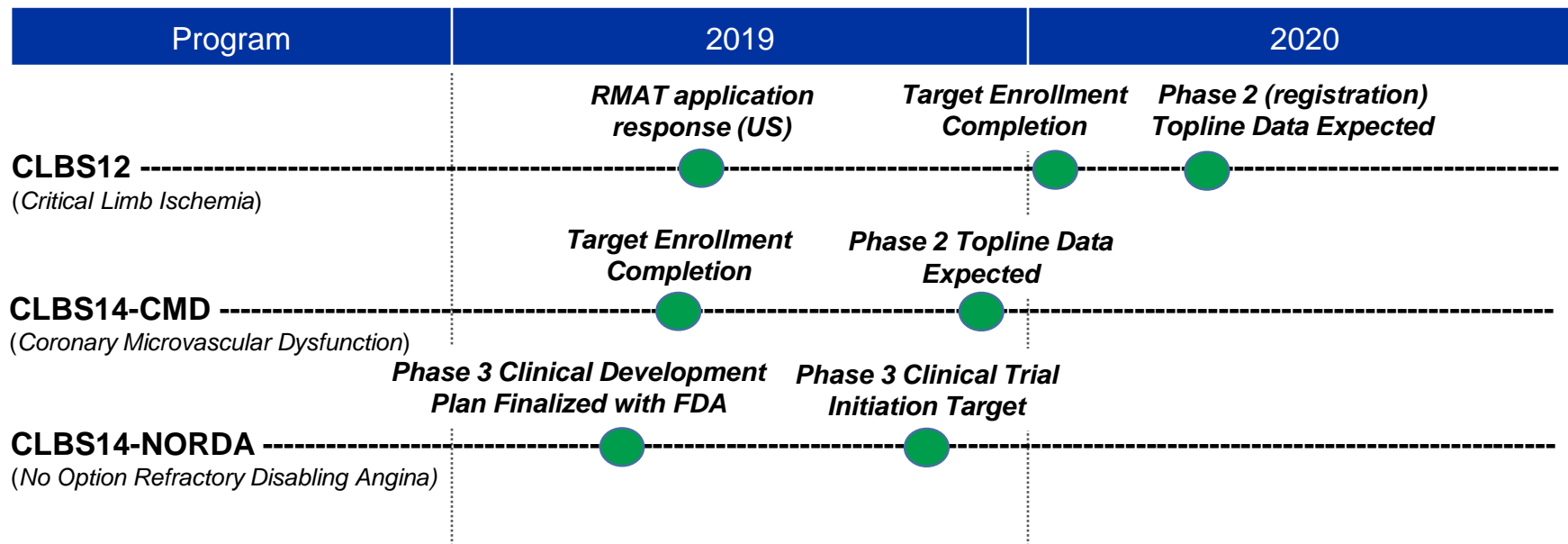
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Multi-product pipeline based on proprietary technology platforms



Timeline of key development milestones by project



Key CLBS financial information

Cash & Investments at December 31, 2018	\$43m
2018 Operating Cash Burn	\$20m
Cash Runway Based on Current Plan (Including CLBS14-NORDA Clinical Initiation Costs)	through May 2020
Debt	\$0
Common Shares Outstanding at December 31, 2018	~9.9m shares
Options Outstanding: Exercise Price < \$5.00 = 476,000 shares Exercise Price < \$10.00 = 139,000 shares Exercise Price > \$10.00 = 403,000 shares	~1m shares

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NASDAQ: CLBS

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