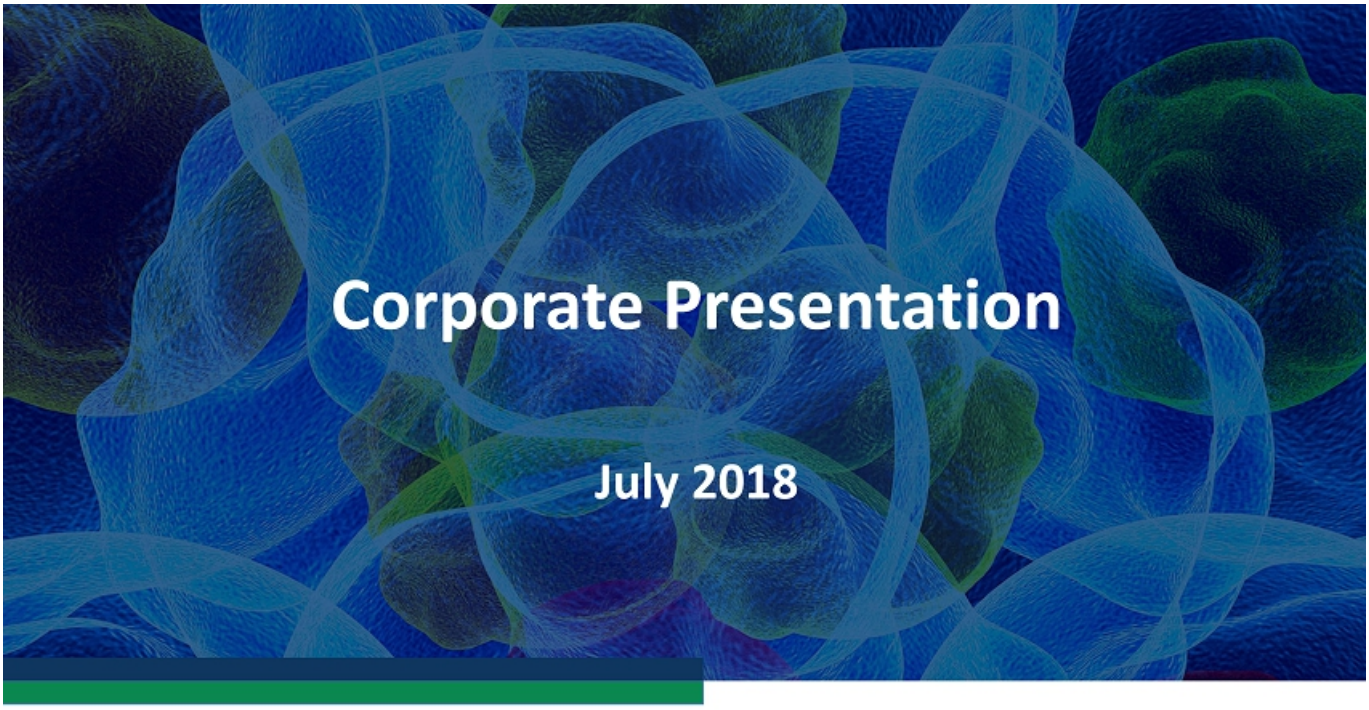


Issuer Free Writing Prospectus
Filed Pursuant to Rule 433
Registration Statement No. 333-225675
July 18, 2018

NASDAQ: CLRB

CELLECTAR BIOSCIENCES

Forward-Looking Statements

This presentation contains forward-looking statements. Such statements are valid only as of today and we disclaim any obligation to update this information. These statements are only estimates and predictions and are subject to known and unknown risks and uncertainties that may cause actual future experiences and results to differ materially from the statements made. These statements are based on our current beliefs and expectations as to such future outcomes. Drug discovery and development involve a high degree of risk. Factors that might cause such a material difference include, among others, uncertainties related to the ability to raise additional capital required to complete the development programs described herein, the ability to attract and retain partners for our technologies, the identification of lead compounds, the successful preclinical development thereof, the completion of clinical trials, the FDA review process and other government regulation, the ability of our pharmaceutical collaborators to successfully develop and commercialize drug candidates, competition from other pharmaceutical companies, product pricing and third-party reimbursement. This presentation includes industry and market data that we obtained from industry publications and journals, third-party studies and surveys, internal company studies and surveys, and other publicly available information. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions that were used in preparing the forecasts from the sources relied upon or cited herein. A complete description of risks and uncertainties related to our business is contained in our periodic reports filed with the Securities and Exchange Commission including our Form 10-K for the year ended December 31, 2017.

Statement about Free Writing Prospectus

- This presentation highlights basic information about us and the offering. Because it is a summary that has been prepared solely for informational purposes, it does not contain all of the information that you should consider before investing in our company. Except as otherwise indicated, this presentation speaks only as of the date hereof.
- This presentation does not constitute an offer to sell, nor a solicitation of an offer to buy, any securities by any person in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation.
- Neither the Securities and Exchange Commission (the "SEC") nor any other regulatory body has approved or disapproved of our securities or passed upon the accuracy or adequacy of this presentation. Any representation to the contrary is a criminal offense.
- This presentation includes industry and market data that we obtained from industry publications and journals, third-party studies and surveys, internal company studies and surveys, and other publicly available information. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Although we believe the industry and market data to be reliable as of the date of this presentation, this information could prove to be inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process, and other limitations and uncertainties. In addition, we do not know all of the assumptions that were used in preparing the forecasts from the sources relied upon or cited therein.
- We have filed a Registration Statement on Form S-1 with the SEC, including a preliminary prospectus dated July 17, 2018 (the "Prospectus"), with respect to the offering of our securities to which this communication relates. Before you invest, you should read the Prospectus (including the risk factors described therein) and, when available, the final prospectus relating to the offering, and the other documents filed with the SEC and incorporated by reference into the Prospectus, for more complete information about us and the offering. You may obtain these documents, including the Prospectus, for free by visiting EDGAR on the SEC website at http://www.sec.gov.
- Alternatively, we or any underwriter participating in the offering will arrange to send you the Prospectus if you request it by contacting Ladenburg Thalmann & Co. Inc., 570 Lexington Avenue, 11th Floor, New York, NY 10022, or by email at prospectus@ladenburg.com.

Company Highlights

- Developing orphan and rare pediatric oncology pipeline with **multibillion-dollar**[1] sales potential
- Advancing multiple clinical programs; demonstrated **activity** in hematologic malignancies
- **10** clinical data readouts planned through 2019
- PDC tumor targeting platform **validated** through clinical trials and corporate partnerships
- **Efficient** capital allocation and low fixed-cost corporate structure allows for ~$10M annual cash burn

Multiple, Value-Creative, Near Term Milestone Potential

1. ResearchAndMarkets.com's offering. Neuroblastoma - Market Insights, Epidemiology and Market Forecast-2027 The market of Neuroblastoma in 7MM was found to be USD 733.58 million in 2016, and is expected to increase at from 2016-2027. Market Research Future Jan 2018 The osteosarcoma market has been on the rise over the past few years. Based on the MRFR analysis, the market is projected to reach USD 136.76 million by 2023 at a healthy CAGR of around 6.40%. Market Research Future July 2018 - The global pediatric brain tumor market is expected to reach US$ 1659.4 million by 2023.

Cellectar Accomplishments in the Past 3 Years

Robust Pipeline Focused on Unmet Need in Cancer

1

Mid-stage Clinical Compound

6

FDA Special Designated Programs

4 ODD[1]

2 RPDD[2]

9.8

Million Dollars in non-dilutive funding

6

Preclinical Phospholipid Drug Conjugate (PDC) Programs

4

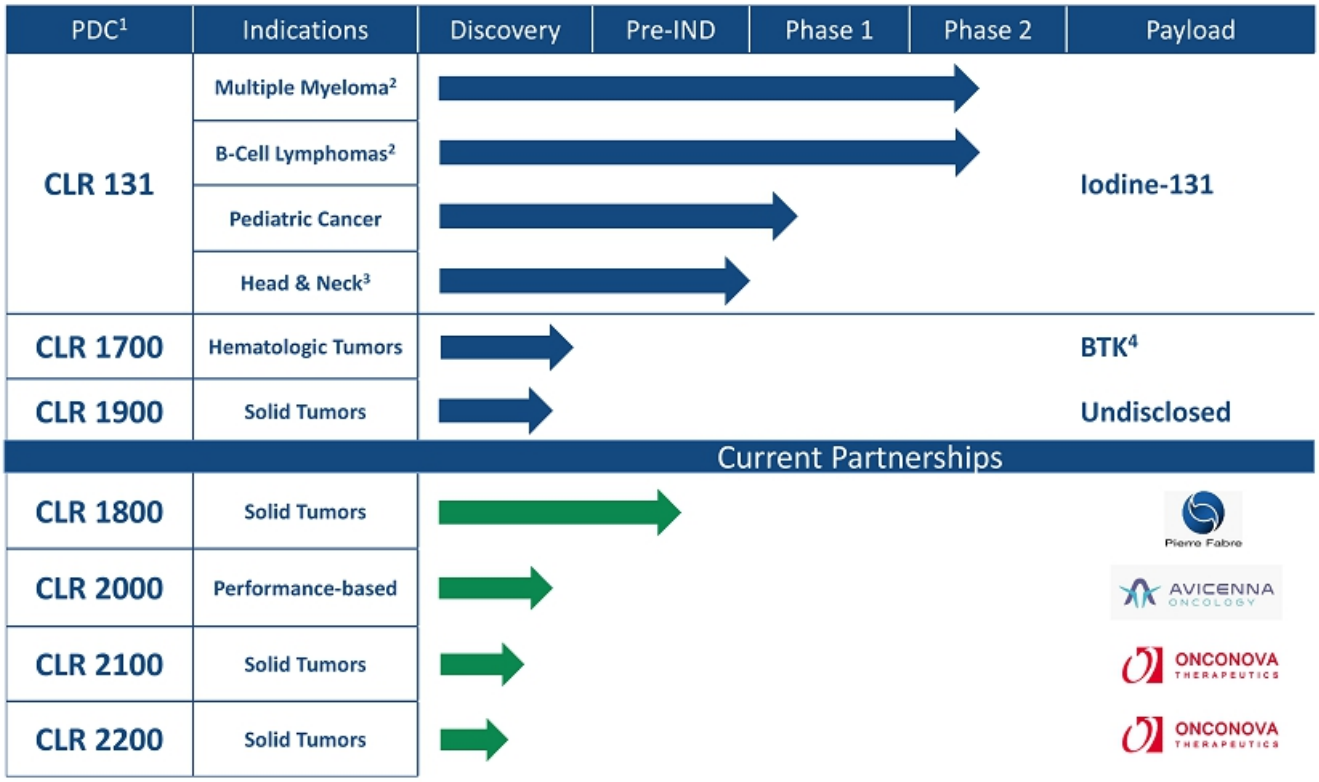
Corporate PDC Partnerships

Creating the Next Generation of Targeted Cancer Therapies

1. Orphan Drug Designation 2. Rare Pediatric Disease Designation

Pipeline

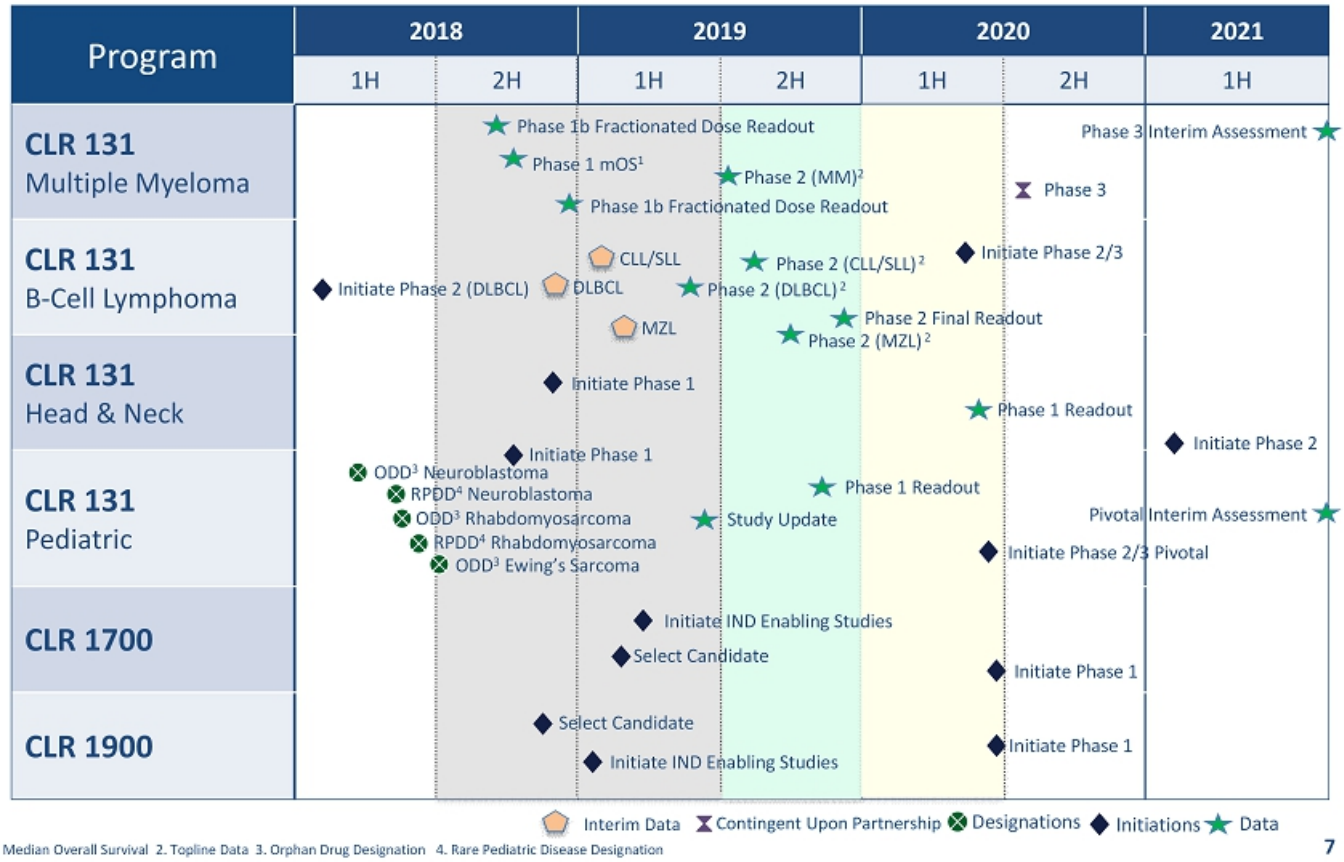
Focus on Niche Oncology Indications with Accelerated Commercial Timelines to Scalable Markets



Leverage POC Data in Larger Opportunities to Attract Partners

1. Phospholipid Drug Conjugates 2. Phase 2 partially funded by $2M NCI Fast Track Grant 3. Predominately funded by University of Wisconsin NCI SPORE Grant 4. Burton's Tyrosine Kinase

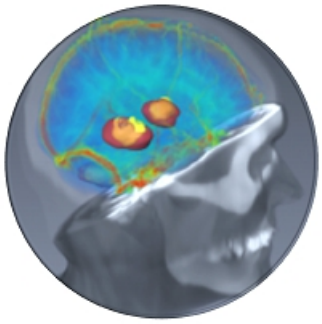
Projected Key Development Milestones



1. Median Overall Survival 2. Topline Data 3. Orphan Drug Designation 4. Rare Pediatric Disease Designation

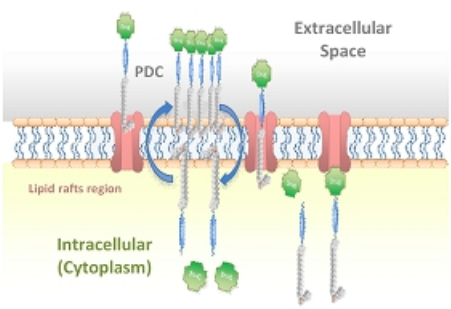
PDC Platform Technology

Precision Targeting



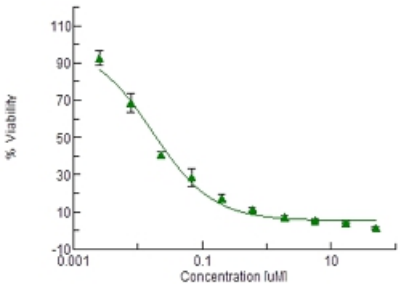
- Phospholipid ethers (PLEs) provide precise targeting even to the brain; Crosses blood brain barrier (BBB)
- PLEs bind to specific membrane region (lipid rafts) rather than a single epitope
- Take advantage of the tumors' metabolic need

Optimized Entry



- Entry via lipid rafts and transmembrane flipping
- Delivery directly to cytosol
- PDCs will accumulate along the Golgi apparatus network and endoplasmic reticulum

Unique Linker Chemistry & Diversity of Payloads



- Custom-designed linkers
- Allows for control of rate, mechanism and localization of drug release
- Maximizes therapeutic benefit

Based on Research in Phospholipids, Tumor Cell Membranes and Cutting-edge Expertise in Protease Linker Design

Our Pipeline

1. CLR 131
2. CLR 1700
3. CLR 1900

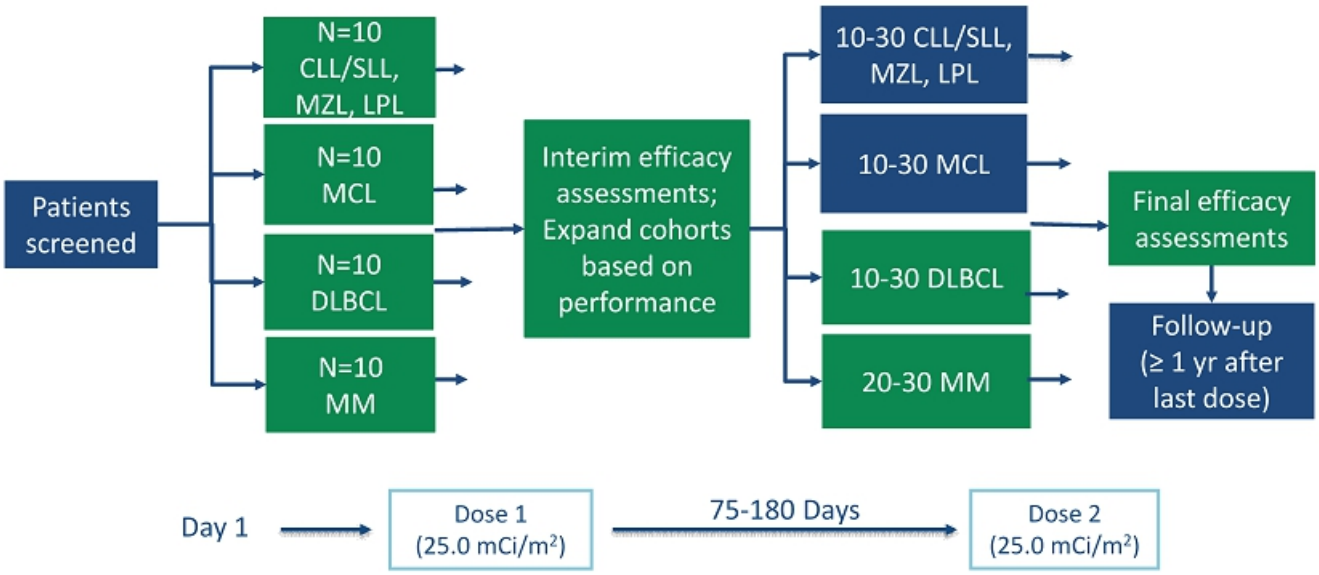
Radiotherapeutic Forecast & CLR 131 Target Markets

- Radiotherapeutic Market forecast ~$9.3 billion revenue in 2020[1]
  - Novartis acquires Advanced Accelerator Applications for $3.9 billion[2]
    - Lead product Lutathera - Radioligand Therapy
  - Bayer's Xofigo® radiotherapeutic generates $473M in revenue[3]
  - Progenics Pharma Azedra™ (MIBG I-131) market cap of ~$600M[4]
- CLR 131 Target Markets
  - Select Relapse or refractory B-Cell lymphoma's (LPL, MZL, MCL)
    - Few approved therapies
    - Accelerated route to market
    - Potential revenues ~$800M US/~$1.8B worldwide[5]
  - R/R[5] Pediatric Tumors (NB, High Grade Glioma, RMS, Ewing's & Osteosarcoma)
    - Approximately 40 U.S. treatment centers; ~20 MIBG I-131 for NB
    - Target indications represent ~30% of pediatric oncology market[6]
    - Potential revenues ~$600M US/~$1.5B worldwide[7]

1. Seeking Alpha Report - Change to Research & Markets, "Global Radiotherapy Market Analysis, Companies Profiles, Size, Share, Growth, Trends and Forecast to 2024" Feb 2017 2.2017 - https://bit.ly/2ut9KZI
3. Bayer Annual Report 2017 4. 7/17/2018 – Yahoo Finance 5. Company Estimates. 6. American Cancer Society. Cancer Facts & Figures 2016 7. Company Estimates.

CLR 131: RR Hematologic Phase 2 Study Overview

Supported with a $2M NCI SBIR Grant

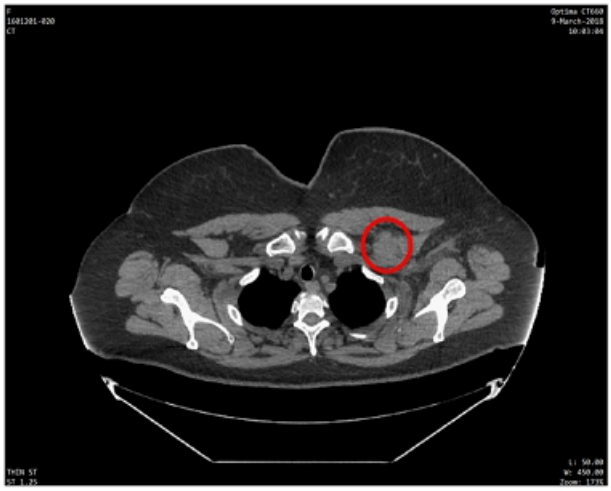


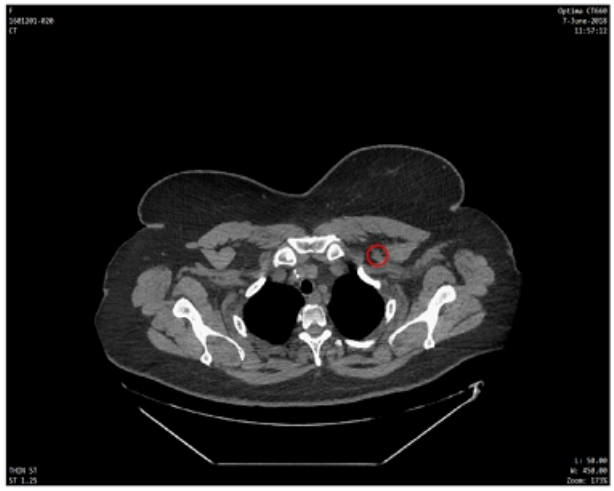
- Primary endpoint is efficacy as determined by response rate (can occur on either dose)
- All cohorts currently enrolling; expect to complete study in 1H-19
- Upon study completion, individual cohorts may advance to a pivotal trial

All Patients Eligible for a Second 25.0 mCi/m² Dose at Day 75-180

CLR 131: Phase 2 DLBCL Overall Response Rate 33%

- Diffuse Large B-cell Lymphoma (DLBCL) is an aggressive form of lymphoma, accounting for ~30% of newly diagnosed cases in the U.S.[1]
- DLBCL cohort opened 1Q18
- 33% Overall Response Rate (ORR) to date
- 50% Clinical Benefit Rate (CBR) to date
- Of responses observed, overall tumor reduction ranged from 60-90%

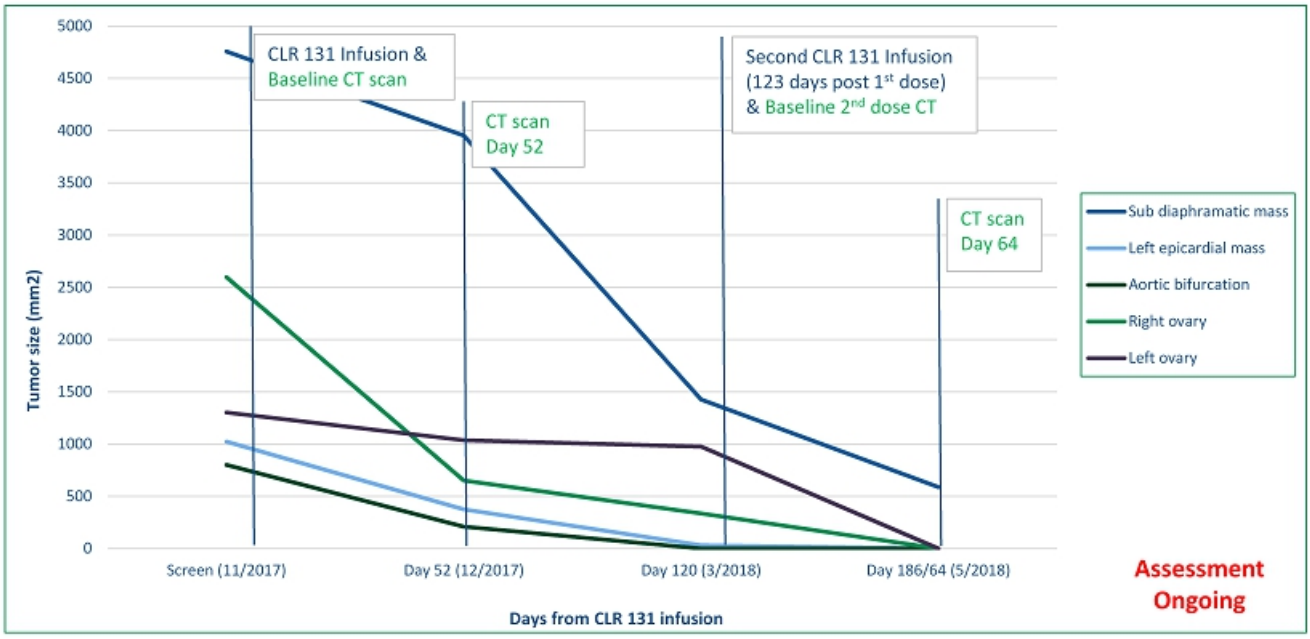




1. According to the Lymphoma Research Foundation.

CLR 131: Phase 2 LPL Patient Case Study (Waldenstrom's)

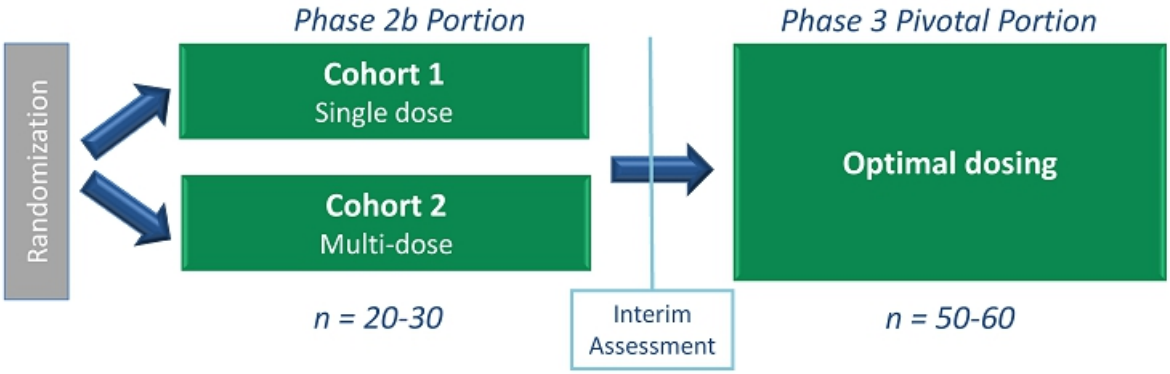
- Baseline: Pleural effusion & multiple large tumor nodules; Symptomatic with cough
- Following 1st infusion: Dramatic improvements in cough and no significant cytopenias



- CT day 64 (Post 2nd Infusion) showed 94% reduction in overall tumor burden as well as complete resolution of 4/5 tumors

CLR 131: B-Cell Lymphoma Clinical Development Strategy

Proposed Phase 2/3 Adaptive Design Pivotal Study (for LPL, MZL or MCL)



Proposed Phase 2/3 Pivotal Study Design

- Relapsed/refractory niche lymphoma indication
- Phase 2b enrollment of ~20 patients
- Phase 3 pivotal, single-arm
  - Primary endpoint: Overall Response Rate (ORR)
  - Secondary endpoints: Overall Survival (OS), Progression Free Survival (PFS)

Program Timing[1]

- Phase 2a to complete 1H-19
- Phase 2b/3 initiation 1H-20
- NDA submission 2023

Clinical Costs[1]

- Phase 2b = $4 - $8 million
- Phase 3 pivotal trial = $15 - $20 million
- Eligible for pivotal trial SBIR Grant up to $4M per indication[2]

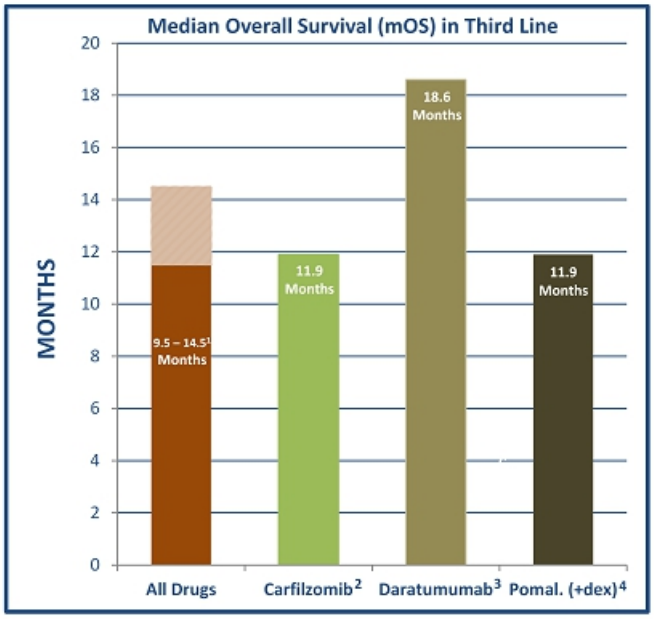
1. Estimated 2. https://www.grants.gov/web/grants/learn-grants.html

CLR 131: Relapsed/Refractory Multiple Myeloma

New Treatments are Needed

Key Unmet Need: Improved Survival Rates and Tolerability

- → Most approved drugs for RR MM in third line or later average 11.9 months of survival, including several recent additions
- → Darzalex™ for third-line treatment averages 18.6 months of survival
- → Most treatments are now given in combination for use in earlier lines of therapy; most frequent is triplet combination
- → More patient-friendly dosing regimens required, fewer infusions, less pills
- → Common adverse events include peripheral neuropathy, infection, deep vein thrombosis, severe cytopenia, fatigue

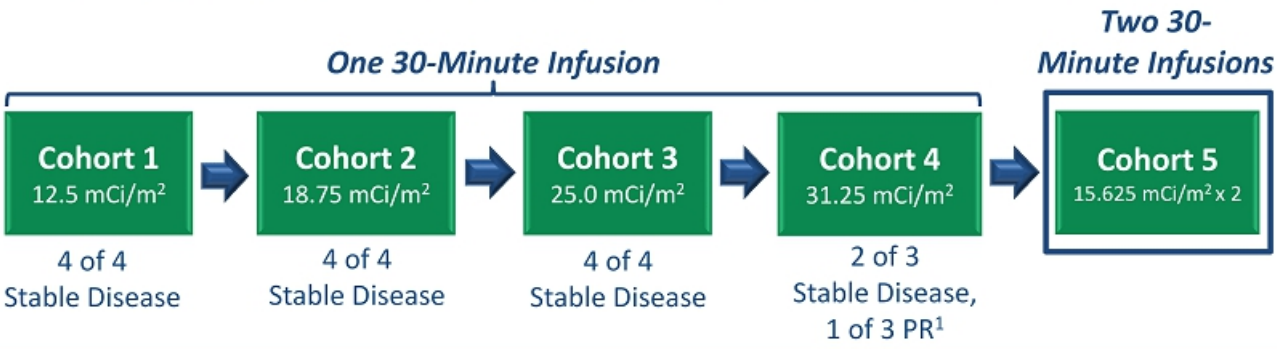


Opportunity to Capture Significant Market Share in Third Line or Later Based on an Improved Efficacy, Safety and Tolerability Profile

[1]Traditional monotherapy chemotherapy, protease inhibitor, and immunomodulating agents
[2]Jurczyszyn et al (2014). *New drugs in multiple myeloma – role of carfilzomib and pomalidomide.* Contemp Oncol.
[3]Usmani, et al (2016). *Clinical efficacy of daratumumab monotherapy in patients with heavily pretreated relapsed or refractory multiple myeloma.* Blood Journal.
[4]Dimopolous et al (2016). *Safety and efficacy of pomalidomide plus low-dose dexamethasone in STRATUS (MM-010): a phase 3b study in refractory multiple myeloma.* Blood Rev.

CLR 131: RR MM Phase 1 Study Overview

Primary endpoints are safety, tolerability and determination of maximum tolerated dose



Patient Demographics

Metric	Cohort 1 (12.5 mCi/m²)	Cohort 2 (18.75 mCi/m²)	Cohort 3 (25.0 mCi/m²)	Cohort 4 (31.25 mCi/m²)
Average Age	68	70	71	65
Prior # of Treatment Lines	5.8	4	5	5
Tumor Burden[2]	2.71	2.86	4.19	4.36
≥ 1 Triple Combination Treatment	4/4	4/4	4/4	3/3
Stem Cell Transplant	1/4	3/4	4/4	2/3

All Patients Have Advanced Disease and are Heavily Pre-treated

1. Partial Response 2. Based on baseline B2 Microglobulin

CLR 131: RR MM Tolerability & Overall Survival (OS)

Key Results To Date[1]

- All cohorts determined to be safe and well-tolerated by independent DMC
- No patients experiencing peripheral neuropathy, deep vein thrombosis, cardiotoxicities, embolisms or GI toxicities
- Cytopenias most common adverse events
  - All viewed as predictable & manageable
- ≥ Grade 3 fatigue and fever = 7%
- No change in liver enzymes or renal function

Adverse Events	Avg. Number[2]	Avg. Grade[2]	Median Grade
Cohort 1 (12.50)	4.75	2.05 ± 0.91	2.0
Cohort 2 (18.75)	4.75	2.74 ± 0.93	2.0
Cohort 3 (25.00)	6.75	2.52 ± 1.22	3.0
Cohort 4 (31.25)	4.25	3.23 ± 0.93	3.0

Pooled Phase 1 study: Overall Survival (n=15)

Survival Data last updated 02/20/18; mOS Not Reached to Date

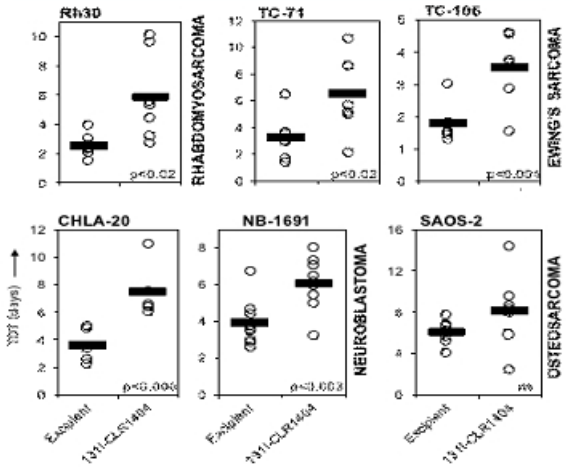
1. Study ongoing n=15 - Final results may differ from data presented 2. Per patient

CLR 131: Efficacy in Pediatric Preclinical Models

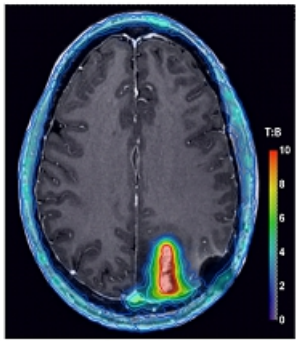
Preclinical Results

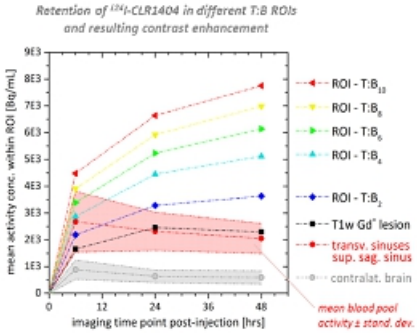
- Various mouse models demonstrate significant uptake of CLR 131
  - Neuroblastoma, Rhabdomyosarcoma, Ewing's Sarcoma, Osteosarcoma
- Uptake correlated to reduction in tumor volume and ~50% slowing of tumor growth
- Minimal adverse effects were seen on hematologic parameters

Efficacy in Mouse Models



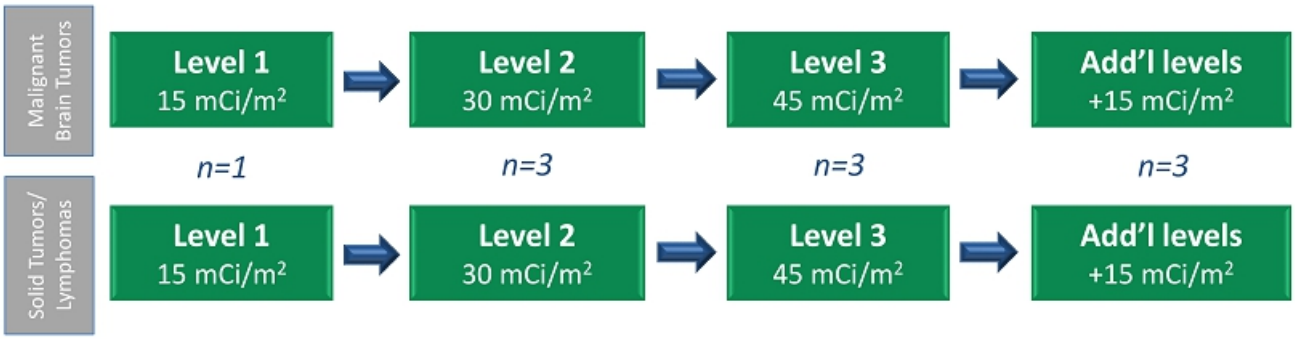
Uptake in the Brain (Crossing BBB)





CLR 131: Pediatric Clinical Development Strategy

FDA Agreement on Phase 1 Accelerated Study Design



Proposed Phase 2/3 Pivotal Study Design[1]

- Granted ODD and RPDD for NB and RMS
- Eligible for Fast Track, Breakthrough and SPA submissions
- Initial enrollment of 10 - 15 patients to confirm dose; upon appropriate efficacy expand into Phase 3
- Phase 3 pivotal trial single arm ~65 patients
  - Primary endpoint: Overall Response Rate
  - Secondary endpoints: EFS[3], CBR[4], PFS

Program Timing[2]

- Phase 1 to complete 4Q-19
- Phase 2/3 pivotal initiation 2020
- NDA submission 2022

Clinical Costs[2]

- Phase 1 = ~$4 million
- Phase 2/3 pivotal trial = ~$15 million
- Potential for SBIR grant of ~$2.3M for Phase 1 & up to $4M per indication[5] for a pivotal trial

Approval in Any Indication May Provide Priority Review Voucher and Potential for NCCN Compendium Listing for Other Tumor Types

1. Relapsed/Refractory 2. Estimated 3. Event Free Survival 4. Clinical Benefit Response Rate 5. https://www.grants.gov/web/grants/learn-grants.html

CLR 131 & MIBG Product Profile Comparison

MIBG I-131 currently Second Line Standard of Care for Neuroblastoma

Profile	CLR 131	MIBG - I131
Delivery Vehicle/ Payload	Phospholipid Ether (PLE)/ Iodine-131	Meta-iodobenzylguanidine/ Iodine-131
Therapeutic Regimen	Single 30 minute mCi infusion Total dose **~45 - 80 mCi**	3-5 cycles, ~300 mCi per cycle, 90-120 minute infusion Total dose **~1000 - 1500 mCi**
Hospitalization	TBD[1]	4-8 days
Capable to Cross the Blood Brain Barrier		
Ability to Target Metastasis		
Stem Cell Transplant Support		
NB Response Rate	TBD	20-60% (~30%)
Indicated for NB	YES, upon approval	NO

FAVORABLE/POSSESSES NOT YET KNOWN DEFICIENT/LACKS

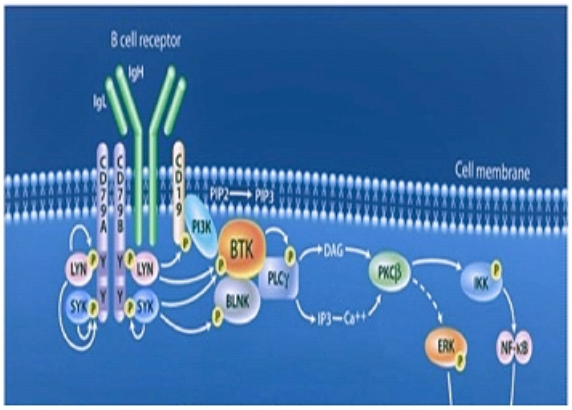
1. To Be Determined

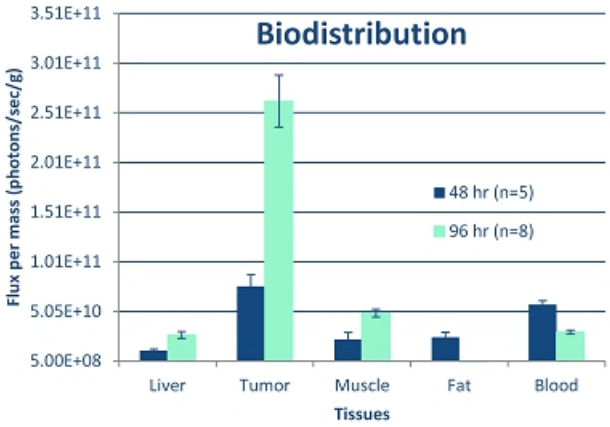
Our Preclinical Pipeline

CLR 1700: Proprietary Chemotherapeutic PDC Program

CLR 1700 Mechanism of Action

- CLR 1700 payload inhibits Burton's Tyrosine Kinase (BTK)
- BTK inhibitors work only in hematologic cancers
- Induces tumor cell apoptosis
- Currently approved BTK inhibitors generate annual revenue of ~$4 billion[1]
- Program is currently in lead optimization



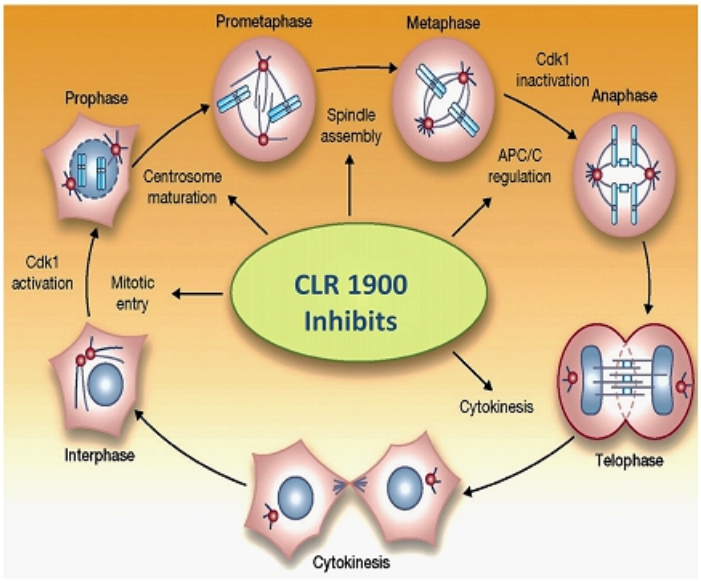


1. Walker, Joseph (1 January 2016). "Patients Struggle With High Drug Prices: Out-of-pocket costs for pricey new drugs leave even some insured and relatively affluent patients with hard choices on how to afford them". Belleville, Illinois: Wall Street Journal. Retrieved 1 January 2016. States potential for $5B in sales for one BTK inhibitor.

CLR 1900: Chemotherapeutic PDC Program

CLR 1900 Mechanism of Action

- CLR 1900 payload inhibits mitosis (cell division)
- Targets a key element in the pathway required for mitosis
- Payload represents a novel class of molecules and a novel target
- Pathway inhibition has been validated with other classes of molecules; results in apoptosis of tumor cells
- Select solid tumor focus
- Program is currently in lead optimization



PDC Demonstrates Preclinically Improved Therapeutic Index vs. Parent[1]

1. Data on File

CELLECTAR BIOSCIENCES

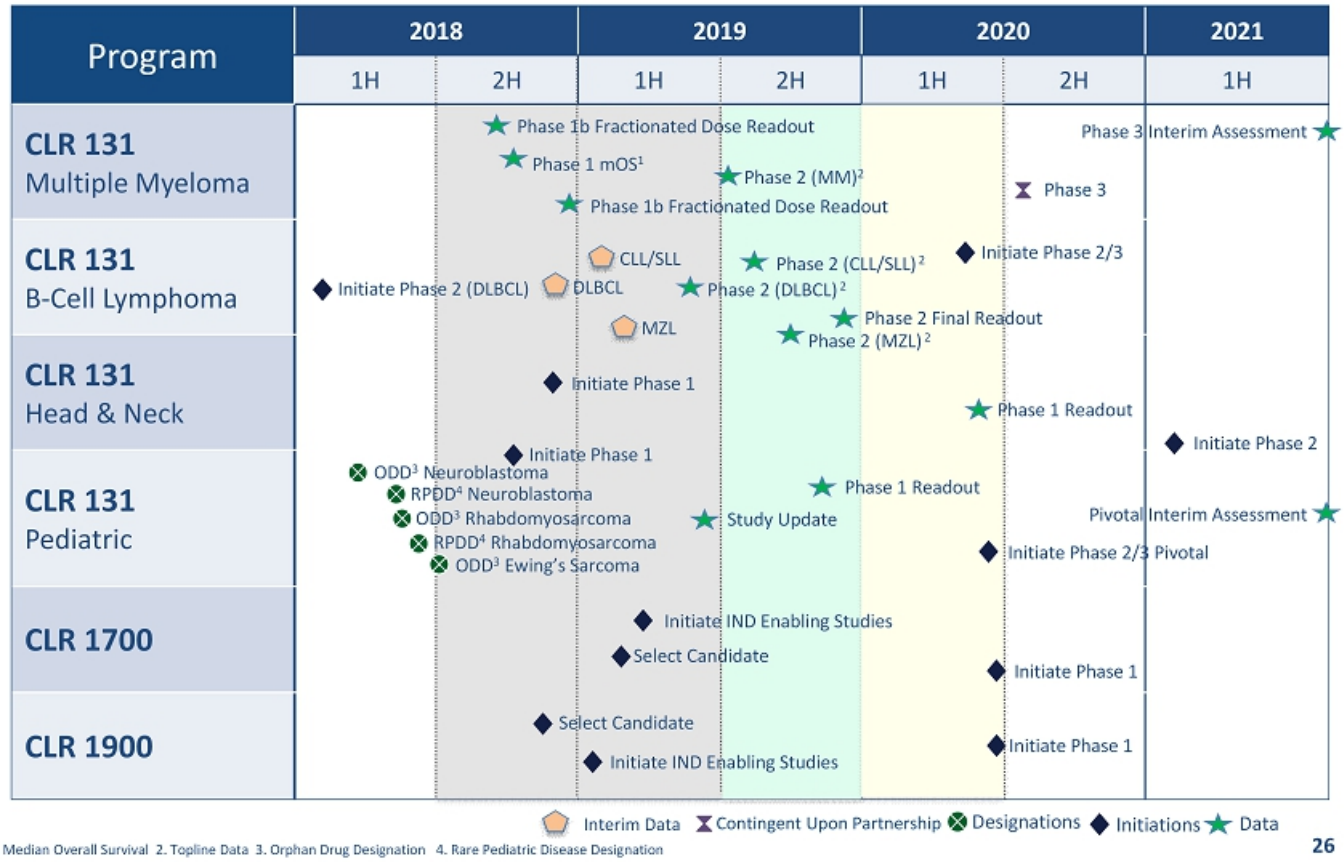
Financial Summary

Capitalization as of July 16, 2018

Common Stock Outstanding	**1,800,325**
Reserved for issuance:	
Warrants (Weighted average strike price $40.14)	1,178,747
Employee Options (Weighted average exercise price $52.10)	57,526
Fully Diluted	**3,036,598**
Cash / Equivalents as of March 31, 2018	**~$6.8 million**

Low Fixed-cost Structure = Efficient Capital Allocation

Projected Key Development Milestones



1. Median Overall Survival 2. Topline Data 3. Orphan Drug Designation 4. Rare Pediatric Disease Designation

Executive Leadership

Jim Caruso President, CEO and Director	HIP Innovation Technology - EVP & COO, Allos Therapeutics - EVP & CCO, BCI, Novartis, BASF, Bristol-Myers Squibb
John Friend, MD Chief Medical Officer	Helsinn Therapeutics - SVP & Head of R&D, Akros Pharma, Actavis, Alpharma, Hospira, Abbott
Jarrod Longcor Chief Business Officer	Avillion LLP - CBO Melinta Therapeutics, Inc. (formerly Rib-X Pharmaceuticals, Inc). - VP Corp Development and Operations
Brian Posner Chief Financial Officer	Alliqua BioMedical, Ocean Power Technologies, Power Medical Interventions, Pharmacopeia - CFO

Executive Team With ~100 Years of Healthcare Leadership and a Proven Track Record of Development and Commercialization

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NASDAQ: CLRB