

**CARDIOL**  
THERAPEUTICS

**Committed to Conquering  
Heart Failure**

January 2018

Cardiol is focused on the research and development of nanotherapeutics for the treatment of heart failure and other inflammatory conditions.

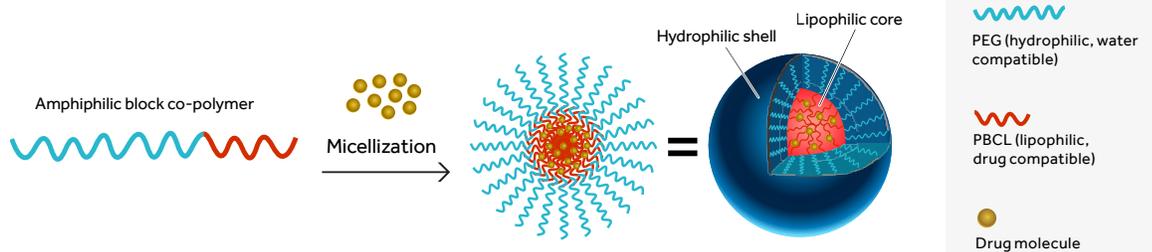
## Market Opportunity

Heart failure is a chronic condition that affects more than 26 million people globally. Over five million adults in the U.S. suffer from heart failure, and it remains a leading cause of death and hospitalization with associated healthcare costs exceeding \$30 billion annually. People with heart failure experience shortness of breath, fatigue, rapid heart rate, edema, reduced exercise capacity, and a marked reduction in quality of life. Approximately half of all heart failure patients have heart failure with preserved ejection fraction (HFpEF), for which there have been no new therapies developed in over 20 years.

## Science & Technology

Most new chemical entities in clinical development and over half of all pharmaceutical products approved in the U.S. since 2000 contain drugs of low water solubility. Nanotechnology is providing solutions for these formulation challenges, generating new options for the development of pharmaceuticals with improved drug delivery characteristics. Cardiol is utilizing nanotechnology to develop innovative therapies for the treatment of heart failure. Cardiol owns the sole, exclusive, and perpetual license to patented nanotechnologies designed to enhance solubilization, improve pharmacokinetics, and facilitate drug targeting to sites of disease. Broad patent protection has been granted for these nanotechnologies in major markets including the United States, Canada, Europe, and Japan.

Cardiol's nanotherapeutics are based on a patented family of biocompatible and biodegradable amphiphilic block co-polymers made from polyethylene glycol (PEG) and polycaprolactone (PCL). Both PEG and PCL have a long history of safe use in humans. A functionalized polyester based on PCL (PBCL) forms the lipophilic core of the nanoparticles, allowing both the solubilization and encapsulation of fat-soluble drugs.



## Product Candidates

**CTX01** is Cardiol's proprietary nanoformulation of pharmaceutical cannabidiol being developed for the treatment of HFpEF. Cannabidiol has been shown to attenuate a number of measures of inflammation in models of diabetes, a common co-morbidity in heart failure patients, and to reduce myocardial fibrosis in a model of inflammatory heart disease. CTX01 for subcutaneous administration is designed to avoid first-pass metabolism, optimize and maintain blood levels of the drug, and target the drug to sites of disease.

Cardiol is also developing **CTX02**, a proprietary nanoformulation of methotrexate for the treatment of heart failure. Experimental data has shown that methotrexate improves cardiac function and has anti-fibrotic properties. Low-dose methotrexate is currently being investigated in the Cardiovascular Inflammation Reduction Trial (theCIRT.org), a clinical study of 7,000 patients with diabetes or metabolic syndrome to investigate whether its anti-inflammatory effects lead to a reduction in serious cardiovascular events. The CIRT study is expected to generate significant interest for methotrexate within the cardiology community. Cardiol plans to play a leadership role in developing methotrexate for the treatment of heart failure.



Nanotherapeutic	Active Molecule	Indication	Discovery	Formulation	Pre-Clinical	Phase I	Phase II
CTX01	Cannabidiol	HFpEF	●	●	●	2018	2018/19
CTX02	Methotrexate	HFrEF	●	●	2018	2018	2018/19

## Financial Information

as at Nov 30, 2017

### Capital Structure:

- Shares Outstanding Fully Diluted..... 9.2M

### Ownership:

- Management..... 46%
- Strategic Partners..... 16%

### Balance Sheet:

- Cash..... \$2.4M CAD

## Management & Board Of Directors



### David Elsley

**MBA, President & CEO, Director**

Founder and CEO of Vasogen Inc., with 25 years experience developing, financing and managing all aspects of corporate development of biotechnology and high-growth organizations.



### Anthony E. Bolton

**PhD, DSc, Director of Research & Director**

Immunologist, 20+ years experience in biotechnology, Chief Scientific Officer of Vasogen Inc.; former Professor and Department Head of Biomedical Sciences, Sheffield, UK.



### Eldon R. Smith

**OC, LLD (Hon), MD, FCAHS, FCCS, FRCPC, Chief Medical Officer & Director**

Cardiologist, former Head of Cardiology, Chairman of Medicine, Dean of Medicine, University of Calgary; Chair Steering Committee, Canadian Heart Health Strategy; recipient of Order of Canada.



### Blagoja Ristevski

**BSc, CHE, Director of Manufacturing**

Chemical Engineer, 25+ years experience in the biopharmaceutical industry, senior exec. roles in eight Canadian biopharmaceutical Co.'s in the research/discovery of drug products; VP Product Dev., AMRIC Institute, Ontario, Canada.



### Ian Hulbert

**CPA, CA, Chief Financial Officer**

Tax specialist, 30+ years tax planning for business transition from start-up to mature co.'s; former Tax Partner with Grant Thornton; expertise in all facets of scientific research and experimental development tax credits.



### Bruce Hirsche

**LLB, LLM, Director**

Partner, Parlee McLaws LLP; designated by Martindale and Hubbell for 16 years as having an AV rating, and named by Lexis-Nexis for the past 3 years as one of the top 20 intellectual property lawyers in Canada.



### Peter Pekos

**BSc, MSc, Director**

President, CEO and Founder at Dalton Pharma Services. Broad experience in the research, development and commercialization of pharmaceuticals, products and services.



### Terry Lynch

**BBA, Director**

Chairman, Chilean Metals Inc., Founder of Pallet and Partner with Kingsmill Capital; entrepreneur with extensive experience and expertise in financing the development of new technologies.

## Research Collaborations

Cardiol is collaborating with world-class researchers and opinion leaders at centers of excellence to leverage multi-disciplinary expertise in drug delivery, drug formulation, nanotherapeutics, and heart failure. Our active research programs at the **University of Alberta**, **TecSalud del Tecnológico de Monterrey**, and the **Houston Methodist DeBakey Heart & Vascular Center**, provide Cardiol with the optimal platform to pursue the development of breakthrough therapies for heart failure.

## Strategic Partnerships

Cardiol has established an exclusive manufacturing arrangement with **Dalton Pharma Services** (Toronto, Canada) for the supply of pharmaceutical cannabidiol. Dalton is currently supplying Cardiol's research programs with pharmaceutical cannabidiol at >99% purity. Dalton is a Health Canada approved, FDA registered, cGMP manufacturer of over 200 APIs with manufacturing capability scalable to support future clinical trials and commercialization.



## Scientific Advisory Board



### Afsaneh Lavasanifar

**PharmD, PhD**

Professor in the Pharmaceutical Sciences division of the Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta. Recognized expert in pharmaceuticals and drug delivery. Her research is on the design and development of polymer-based delivery systems that can increase the efficacy of different therapeutic agents. She has more than 120 peer-reviewed published/in press manuscripts and named inventor on five patent applications on novel polymer based formulations for drug and siRNA delivery.



### G. Torre-Amione

**MD, PhD**

Board certified in Cardiovascular Disease and Advanced Heart Failure/Transplant Cardiology. Chief of the Heart Failure division and Director of Cardiac Transplantation at the Houston Methodist DeBakey Heart & Vascular Center. Senior member at The Methodist Hospital Research Institute, full Professor of Medicine, Weill Cornell Medical College of Cornell Univ. President of TecSalud academic medical center and school of the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Mexico. He has published more than 120 manuscripts in peer-review journals.



### A. Graham Pockley

**PhD**

Professor of Immunobiology and Director of the John van Geest Cancer Research Centre at Nottingham Trent University, UK. Previously he directed the experimental transplantation program in the Professorial Surgical Unit at the Medical College of St. Bartholomew's Hospital, London, and later was appointed Professor of Immuno-biology at the University of Sheffield where he retains an Honorary Professorship in the Department of Oncology. His current research focus is the development of innovative therapeutics and diagnostics in the area of immuno-oncology, and he has over 170 peer-reviewed publications.



### Jonathan Howlett

**MD, FRCPC, FACC**

Clinical Professor of Medicine at University of Calgary, at the Foothills Medical Centre and Director of Heart Failure. Currently doing clinical research in heart failure, evaluation of health care delivery. Chair of the Canadian Cardiovascular Society Heart Failure Guidelines Primary Panel, co-Chair of the CCS Heart Failure Workshop Initiative, and a member of the recent Canadian Heart Health Strategy initiative. Created over 80 abstract presentations and over 70 peer-reviewed articles published or in press.

Focused on developing proprietary nanotherapeutics that target drugs to inflamed tissue in the heart. Cardiol's nanoformulations of pharmaceutical cannabidiol (CTX01) and methotrexate (CTX02) offer the potential to prevent the chronic inflammatory processes that lead to the progression of heart failure.

## Contact

### Investor Relations

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To learn more about our company and our technology, please visit us at [cardiolrx.com](http://cardiolrx.com)

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This document contains "forward-looking information" within the meaning of applicable Canadian securities laws which may include but is not limited to statements with respect to the intended business strategy of Cardiol Therapeutics Inc. ("Cardiol"), the potential for Cardiol's licensed drug encapsulation and delivery technologies to enhance the bioavailability of pharmaceuticals and the potential investment opportunity afforded by an investment in the Class A Common Shares of Cardiol. All statements, other than statements of historical fact, that address activities, events or developments that Cardiol believes, expects or anticipates will, may, could or might occur in the future are "forward-looking information". Forward-looking information is frequently characterized by words such as "plan", "expect", "project", "intend", "believe", "anticipate", "forecast" and other similar words or statements that certain events or conditions "may" or "will" occur. Forward-looking information reflects the current expectation or beliefs of Cardiol based on information currently available to Cardiol and is subject to a variety of risks and uncertainties and other factors that could cause the actual events or results to differ materially from those discussed in the forward-looking information. These risks, uncertainties and other factors include the inherent risks involved in government approval or no approval in the foreseeable future; the possibility of project cost overruns or unanticipated costs and expenses; unforeseeable deficiencies in the development of the technology; uncertainties relating to the availability and costs of financing needed in the future; Cardiol's ability to manage growth in its business; competition; failure of clinical trials to demonstrate acceptable levels of safety and efficacy; Cardiol's ability to retain key management and other personnel; and other risks, uncertainties and factors. These risks, uncertainties and other factors should be considered carefully, and investors should not place undue reliance on the forward-looking information. Any forward-looking information speaks only as of the date on which it is made and, except as may be required by applicable securities laws, Cardiol disclaims any intent or obligation to update any forward-looking information, whether as a result of new information, future events or results or otherwise. Although Cardiol believes that the expectations reflected in these forward looking statements are reasonable, they do involve certain assumptions, risks and uncertainties and are not (and should not be considered to be) guarantees of future performance. It is important that each person reviewing this document understand the significant risks attendant to the operations of Cardiol. This document is only intended for accredited investors. This is not a general solicitation.