

## CORPORATE PRESENTATION

**JULY 2024** 

CSE: PREV OTCQB: PRVCF FSE: 18H



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### **CORPORATE OVERVIEW**

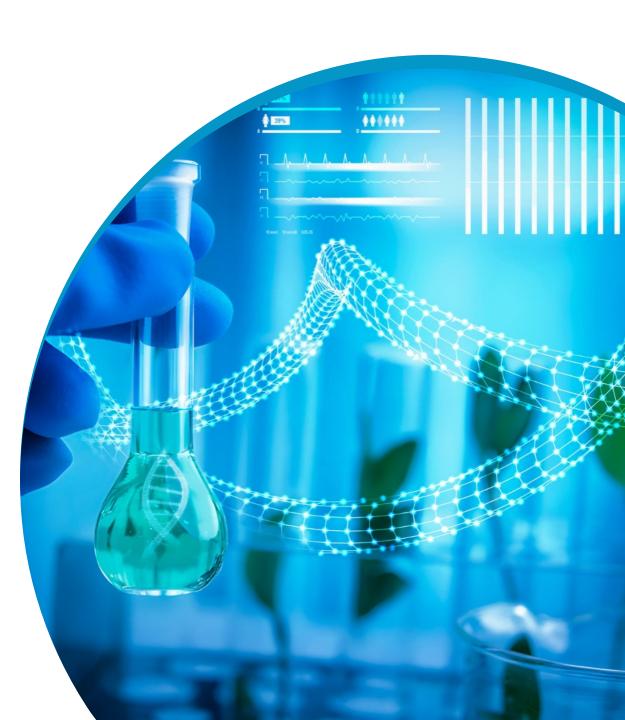
Preventive health sciences company with corporate offices in Vancouver, Canada, and wholly owned subsidiary in Brisbane, Australia.

Leveraging innovative science & technology to enhance natural products as novel targeted therapeutics in a diverse portfolio of R&D programs addressing significant life-affecting diseases.

Focus on developing Nature Identical<sup>®</sup> products and therapies for health-conscious consumers and becoming a trusted provider of preventive health solutions globally.

Building an extensive library of intellectual properties to enter into JV, development and licensing agreements with leaders in pharmaceutical and cannabis industries.





### **PIPELINE OVERVIEW**

MEETING UNMET CLINICAL NEEDS



### MARKET

Cannabinoid Sol-Gel Delivery		BSV Peptide Program		
<b>\$116.2 Billion</b> in 2020	<b>\$140.5 Billion</b> in 2030	\$365.99 Billion	<b>\$106.0 Billion</b> by 2030	
CNS Therapeutic Market	Global Chronic Pain Market	Global Market for	Global peptide therapeutics	
		Cancer Treatments	market is expected to reach	
	esic		market is expected to reach	
	esic	Cancer Treatments Dual Gene Therapy	market is expected to reach	
Non-Addictive Analge		Dual Gene Therapy		
Non-Addictive Analge	esic <b>\$149.3 Billion</b> by 2030		sills Billion by 2028	
Non-Addictive Analge	\$149.3 Billion	Dual Gene Therapy \$966 Billion	\$118 Billion	



## NON-ADDICTIVE ANALGESIC

### NON-ADDICTIVE ANALGESIC (DYNORPHIN PAIN PEPTIDE)

Developing highly biostable peptides for the relief of 'moderate-to-severe', nociceptive, acute & chronic pain to substitute dependence-associated opioids such as morphine, fentanyl and oxycodone

Highly potent and stable for extended periods in biological fluids and are purported to avoid addictive and tolerance-inducing side effects.

Demonstrated potency, in a well-accepted functional dose response assay, that is on par with clinically available agents such as morphine.

The research program commenced mid-2018, and is being led by PreveCeutical's Chief Research Officer, Dr. Harendra Parekh, in collaboration with UQ School of Pharmacy's pain & inflammation pharmacology expert, Associate Professor Peter Cabot.

#### NOTABLE



Peptides are currently being used to target an array of disease indications including metabolic disorders, pain, cancers, cardiovascular and infectious diseases.



PreveCeutical<sup>®</sup> intends for the Research Program to progress into preclinical evaluations of the lead, highly potent and stable peptide candidates in a wellestablished model of pain and inflammation.



## **NON-ADDICTIVE ANALGESIC**

USING THE BODY'S OWN ENDOGENOUS PATHWAYS

### Clinically Available Agents (such as "Morphine or Fentanyl")

Inherent development of tolerance, addiction, depression etc., to ALL clinically available agents for management of moderate-to-sever pain, primarily dictated by opioid receptor sub-types, the agents bind to, and nature of binding to mu, delta & kappa opioid receptors.

ALL clinically available agents to treat moderateto-severe pain target the mu-opioid receptor.

### Body's Endogenous Pain-Killing Peptides ("Dynorphin")

In response to pain and inflammation, the body releases pain-killing substances (antinociceptive peptides "Dynorphin") EACH time an injury occurs. The body does NOT develop addiction or tolerance to these pain killing peptides

Dynorphin preferentially 'bind' delta & kappaopioid receptors. Dynorphin (1-7) contains all the necessary features for OP activation. Shows equal affinity for delta & kappa-opioid receptors







## NON-ADDICTIVE ANALGESIC

Two Australian provisional applications entitled, "A Cyclic Peptide", which were filed last year by The University of Queensland, Australia ("UQ") have recently been combined into a single PCT application.

This PCT application, jointly owned by UQ and PreveCeutical®, was filed on January 24, 2020, with application number PCT/AU2020/050049, with the aim of seeking protection for certain cyclic peptides and their use in pain management.

This is a very exciting and important program as we focus on engineering a novel class of drugs derived from our very own endogenous pain pathways... Our preliminary work has highlighted that by using our proprietary linker technology we can enhance stability while maintaining, and in some cases enhancing the potency of lead bioactives."

> -Chief Research Officer,. Dr. Harry Parekh

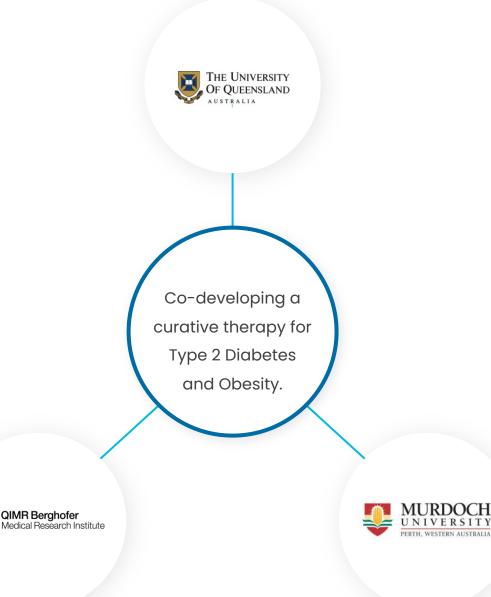


TARGETING TYPE 2 DIABETES & OBESITY

Targeting the over-expression of a gene that drives the manifestation of insulin resistance and accumulation of fatty acids.

Leveraging Smart siRNA and a Tissue Targeted Bioresponsive Carrier System, PreveCeutical has generated convincing results in models of this disease.

This program paves the way for preclinical evaluation of proprietary chemistry toward the single gene target implicated in T2D and obesity, thereby reducing capacity to store fat, reversing obesity, fatty liver disease, and possibly curing the disease rather than just managing it.



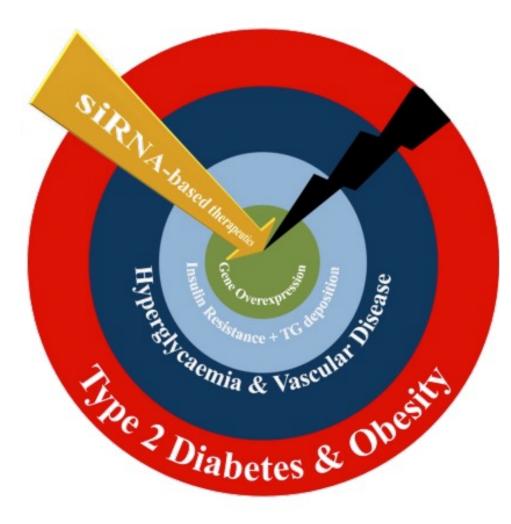


#### TARGETING THE ROOT CAUSE OF DIABETES AND OBESITY

### Total global health expenditure due to diabetes was estimated at 673 billion US dollars for 2015 and 802 billion US dollars for 2040.

Over-expression of select genes (and their encoding proteins) drive the manifestation of insulin resistance and accumulation of fatty acids (aka "TGs" – triglycerides). PreveCeutical's focus is on the degradation and down-regulation of a key class of enzyme which has proven beyond doubt to be a valid and sought-after clinical target for correcting the key underlying cause of insulin resistance in T2DM.

PreveCeutical's Dual Gene Therapy Program is designed to target siRNA to three of the most prominent tissues implicated in diabetes and obesity – liver, skeletal muscle and adipose tissue. Paving the way for preclinical safety and efficacy evaluation with the potential to substantially Restore the ability of tissues to handle and process glucose and lower the capacity of tissues to store fat.





PHASES THROUGH TO EVALUATION

The multi-disciplinary team mapped the phases of the project

### **FIRST ARM**

### **Objective 1:**

Engineer a library of novel Smart-siRNA constructs against the gene implicated and overexpressed in both type-2 diabetes and obesity.

#### **Objective 2:**

Design and synthesize novel, ligand-targeted (i.e. liver, skeletal muscle, fatty tissue and brain) bio-responsive gene carrier and release systems.

### **Objective 3:**

Evaluate Smart-siRNA bioresponsive carrier complexes in gene and protein silencing using inhouse derived cellular models of type-2 diabetes and obesity, including toxicity evaluation

### FINAL ARM

### **Objective 4:**

Perform biodistribution studies of lead Smart-siRNA carrier complexes focusing on the liver, skeletal muscle, fatty tissue and brain of healthy mice.

#### **Objective 5:**

Perform gene-protein silencing efficacy and safety evaluation studies in obese-diabetic and leandiabetic mice with our lead Smart-siRNA bio-responsive carrier systems.

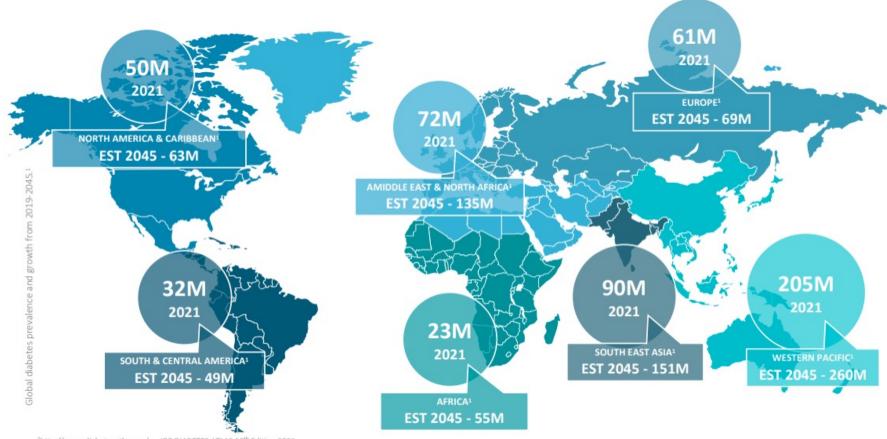


### DIABETES

#### FACTS & FIGURES

In 2021 6.7 million people died due to diabetes

International Diabetes Federation estimates that there will be 642 million adults with diabetes by 2030, & 783 million by 2045





<sup>1</sup>http://www.diabetesatlas.org/ IDF DIABETES ATLAS 10<sup>th</sup> Edition 2021

Jan 2020: PreveCeutical® added a potent novel siRNA construct to the panel, engineered into a Smart-siRNA form, its screening is underway. If successful, the screening of this new Smart-siRNA construct will bring to a close the first arm, of two, of the Dual Gene Therapy Program aimed at identifying novel SmartsiRNA sequences for the Company's target gene of interest in type 2 diabetes and obesity.

"With diabetes, over-production of a particular protein molecule has been identified and purposed to be responsible for the key drivers of diabetes and obesity, starting patient on an inevitable journey of significant co-morbidity and increased rates of mortality.

PreveCeutical's gene-silencing technology would effectively "turn off" the genetic signal which leads to the over-production of this key protein molecule, bringing it back down to safe, normalized levels; this would in turn help our cells to absorb glucose, thus reducing blood sugar levels and prevent the body from storing excessive fat

from our diet. Thus gene-silencing does not represent a mere management for diabetes and obesity, it represents the potential for a bona fide cure or, in cases where patients have a pre-disposition to diabetes or are in the pre- diabetes state, it can be applied as a 'PreveCeutical' to halt progress to the full-blown disease.

This is not merely theoretical. Five years of painstaking work has gone into this initiative and management has already taken this research through the proof-of-concept stage in cellular models of diabetes and obesity."

> - Chief Executive Officer, Mr. Stephen Van Deventer



## CANNABINOID SOL-GEL DELIVERY

#### NOSE-TO-BRAIN DELIVERY OF THERAPEUTIC CANNABINOIDS

Water soluble, patient safe, cannabinoid formulations for the clinical relief of a range of indications from pain to neurological disorders.

Developing, the first sustained-release, cannabinoidbased formulations for nose-to-brain delivery via a custom nasal spray device for ultra nasal drug delivery. An ideal vector for improving therapeutic outcomes for patients seeking access to cannabinoid-based products and therapies. Providing clinical relief across a range of indications from pain, inflammation, seizures and neurological disorders. A novel process for preparing insoluble drug-containing Sol-gels has been developed by Preveceutical's Chief Research Officer, Dr. Harendra Parekh. The Cannabinoid Sol-gel formulations belong to PreveCeutical<sup>®</sup>.

#### NOTABLE



Bypasses first-pass metabolism in the stomach, intestines and liver, exhibiting a dramatic improvement in bioavailability, even when compared to conventional liquid nasal sprays and alternative delivery mechanisms.



Delivery and retention directly at target tissue high in the nasal cavity, a feat not claimed by current liquid sprays in the market.

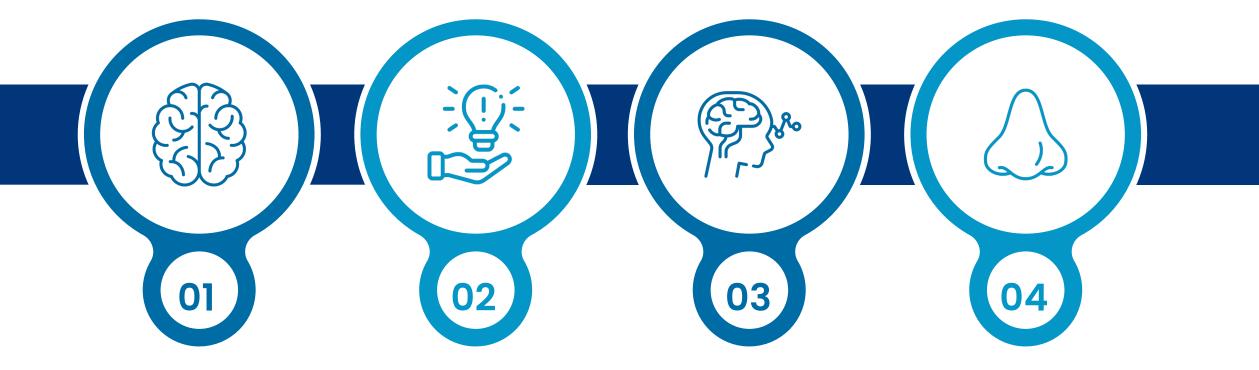
### 03.

Proprietary formulations (patentability).



### **CANNABINOID SOL-GEL DELIVERY**

#### WHY NOSE-TO-BRAIN?



#### **Direct Drug Delivery to Brain**

Patient outcomes of cannabis based CNS drugs is hinged upon effective and sustained delivery to brain tissue

#### **Challenges with Oral Route**

Rapid breakdown of enzymes in gut; incidences of GI distress on oral consumption of medical cannabis

#### **BBB** Permeability

Difficult to reach the brain with drugs to treat neurological disorders due to blood-brain barrier

#### Leverage Olfactory Pathway

Ideal pathway to deliver drugs directly to the brain via the Cannabinoid Solgel formulations



## CANNABINOID SOL-GEL DELIVERY

PreveCeutical<sup>®</sup> believes that the outcomes of its Cannabinoid Sol-gel Program may be of value to companies interested in delivering cannabinoid/cannabis-based-derived pharmaceuticals to the central nervous system (the "CNS").

As medical research into the effects of cannabinoid acids in modulating disease pathways progresses and the expected benefits of cannabinoid acids emerge the company will be wellpositioned with its CBD Sol-Gel formulations.

"Sol-gel technology has certainly shown significant promise in laboratory testing at this point. Eventually, I would like to see this proprietary technology be successfully applied to a drug which could be targeted for CNS delivery. At the right time, we would welcome an opportunity to work with a pharmaceutical or biotechnology company to codevelop the Sol-gel and Sol-gel Applicator to be used in pharmaceutical and therapeutic products."

> President & Chief Science Officer, Dr. Mak Jawadekar.



## BSV PEPTIDE PROGRAM

#### TARGETING CANCER PROGRESSION

Developing highly biostable peptides aiming to treat, regulate and prevent cancer progression.

Peptides derived from the Blue Scorpion Venom ("BSV") have shown promise in delineating glioma tissue and preventing the invasion of gliomas through inhibition of extracellular matrix metalloprotease.

The re-designed and synthesized peptides were found to be equally or more potent in the cell-based activity assay when compared to another scorpion peptide, Chlorotoxin. The peptides within scorpion venom are very complex molecules and challenging to manufacture. PreveCeutical's research team redesigned the peptides so they could be manufactured in the lab, addressing notable supply chain problems.

#### NOTABLE



Series of more comprehensive screening assays are underway in the final stages to develop a more detailed understanding of the activities of peptides in progressively complex cell-based brain cancer models.



Filed a provisional application at the Australian Patent Office on Dec 2020, with the aim of seeking protection for certain cyclic peptides and their use in prevention and treatment of brain cancer.



## **BSV PEPTIDE PROGRAM**

#### HOW THE LEAD PEPTIDES WERE IDENTIFIED?

Screening of the four peptides in an invasion assay model showed to have the ability to reduce the invasion potential in brain cancer cell types.

### 01.

#### Screening of 4 lead peptides

Identification of 4 lead peptides through preliminary screening in a glioblastoma cellbased assay.

### 02.

#### Disease Activity in Invasion Assay Model

Peptides derived from BSV have shown promise in delineating glioma tissue and preventing the invasion of gliomas through inhibition of extracellular matrix metalloprotease.

### 03.

#### In-vitro/ Cell-line Studies



Further evaluation in invitro studies in certain brain cancer cell lines and also in a patientderived neural oncosphere cell line of a brain cancer.



### BSV PEPTIDE PROGRAM

PreveCeutical<sup>®</sup> is now accelerating the process of evaluating options on how best to progress the two lead peptide drug candidates, which may include partnering to expedite their preclinical evaluation.

The pre-clinical outcomes, along with the Company's IP coverage, would have the potential to demonstrate proof of concept and enable the Company to further extend dialogue with pharma R & D / biotech companies active in the therapeutic neuro-oncology space.

The Peptide Program is expected to enable the company to develop their own proprietary, Nature Identical<sup>™</sup>, peptide therapeutics, which are intended for therapeutic applications.



"We are very excited with the results of the BSV program, and in particular with this lead peptide. Our plan is to utilize these results for a number of treatments, including management of GBM"

> – Chief Executive Officer, Mr. Stephen Van Deventer



### PATENTS & LICENCING AGREEMENTS

PATENT FAMILY TABLE

ΡΑΤΕΝΤ ΝΑΜΕ	COUNTRY	FILING DATE	PUBLICATION DATE
PEPTIDES & USES THEREOF	INTERNATIONAL	2022.11.18	2023.05.25
CYCLIC PEPTIDES & USES THEREOF	INTERNATIONAL	2021.12.22	2022.06.30
CANNABINOID FORMULATIONS & METHODS OF USE	INTERNATIONAL AUSTRALIA EUROPE CANADA	2021.08.31 2023.02.28 2023.03.21	2022.03.03 2023.07.05 2023.03.23
SOL-GEL CANNABINOID FORMULATION & ANTIVIRAL USE	INTERNATIONAL AUSTRALIA CANADA	2021.11.19 2021.11.19 2021.11.19	2022.05.27 2022.05.27 2022.05.27
PEPTIDES & USES THEREOF	INTERNATIONAL AUSTRALIA EUROPE CANADA	2021.07.01 2021.07.01 2021.07.01 2021.07.01	2022.01.06 2022.01.06 2023.05.10 2022.01.06
A CYCLIC PEPTIDE	INTERNATIONAL AUSTRALIA EUROPE CANADA USA	2020.01.24 2020.01.24 2020.01.24 2020.01.24 2020.01.24	2020.07.30 2020.07.30 2021.12.01 2020.07.30 2022.03.24



### **PATENTS & LICENCING AGREEMENTS**

PATENT FAMILY TABLE

ΡΑΤΕΝΤ ΝΑΜΕ	COUNTRY	FILING DATE	PUBLICATION DATE
DISULFIDE BOND CONTAINING	INTERNATIONAL	2018.07.26	2019.01.31
COMPOUNDS AND USES THEREOF	AUSTRALIA	2022.12.15	2023.02.02
	EUROPE	2018.07.26	2020.06.03
	CANADA	2018.07.26	2019.01.31
	USA	2023.05.11	2023.05.11





#### Stephen Van Deventer - Chairman and Chief Executive Officer

Mr. Van Deventer is an experienced businessman and corporate director. Specializing in international corporate relations and business development over the last thirty-five years, Mr. Van Deventer has focused on launching small to medium-sized companies into the public markets in Canada, the United States, Europe and Australia. He has also owned and operated private companies.



#### Mak Jawadekar PhD – President, Chief Science Officer and Director

Dr. Jawadekar completed his Ph.D. in Pharmaceutics at the University of Minnesota. Dr. Jawadekar worked at Pfizer Inc. for twenty-eight years, where he most recently acted as the Director of Portfolio Management. During his career, he was responsible for drug delivery technology assessments involving external drug delivery technologies. Dr. Jawadekar has extensive experience in creating and cultivating external partnerships and alliances for drug delivery technologies.





#### Linnéa Olofsson PhD – Director

Dr. Olofsson is an accomplished biophysicist with 12 years of laboratory research experience in academia, and 3 years working in the private sector as scientific support and equipment sales. She successfully advances science by providing counsel and training to the scientific community, contributing to executing strategic marketing plans by working in conjunction with the sales team members to identify and qualify sales leads through technical discussions. Dr. Olofsson closely collaborates with corporate strategic decision-making processes to penetrate new market applications to increase return on investment.



#### Kathy Rokita CPA – Director

Ms. Rokita is a finance, operations, and strategey-focused executive having extensive experience with large medical groups. Her involvement includes business development, information reporting, analytics, and improvements in financial performance and operational processes. She has a background in treasury management, budgeting, as well as mergers and acquisitions. Kathy has been appointed to PreveCeutical's audit committee. Kathy also selflessly dedicates time to volunteering as a board member for St. Vincent Hospital Foundation and Angelman Syndrome Foundation, where she served as Treasurer and President of the Board of Directors.





#### C. Evan Ballantyne – Director

Mr. Ballantyne has extensive executive leadership experience and has spent the last 20 years as a public and private company Chief Financial Officer in the healthcare industry. He was most recently the CFO of OncXerna Therapeutics Inc. where he worked to advance partnering opportunities for the company's biomarker program. Prior to OncXerna, Ballantyne was CFO at Orchestra BioMed Inc. where he assisted with the closing of two equity financing rounds with proceeds of \$57 million. At Orchestra, he also helped close a global partnership deal valued at more than \$200 million.



#### Harry Parekh PhD, BSc Hons I - Chief Research Officer

Based at the University of Queensland's (UQ) Pharmacy Australia Centre of Excellence (PACE) in Australia, Dr. Parekh also holds an adjunct faculty position at Manipal University, India. Dr. Parekh heads the Drug/Gene Delivery Group at PACE-UQ with his team developing highly innovative and translational medicine delivery systems in-conjunction with physicians whose expertise span cancer, obesity-&-diabetes, macular disease, infectious disease, and neurological conditions.





#### Andrea Ortega - Executive Assistant & Office Manager

Ms. Ortega is a professional currently studying commerce while gaining valuable experience in the hospitality and marketing industries over the past two years.

Ms. Ortega excels at streamlining operations and optimizing marketing strategies, all while serving as an accomplished executive assistant.

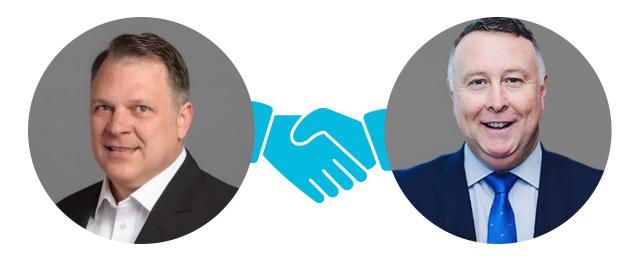


### PREVECEUTICAL AUSTRALIA TEAM

PreveCeutical<sup>®</sup> has established a wholly- owned subsidiary in Brisbane, Queensland, Australia, to bolster their research and development interests.

The Australian team, which will be led by Stephen Van Deventer, the Chief Executive Officer, will work closely with Dr. Harry Parekh, PreveCeutical's Chief Research Officer, to advance the company's therapeutic pipeline.

The office will also allow for better engagement with commercial partners on other ventures that PreveCeutical is pursuing in the region.



Stephen Van Deventer Chairman and Director James Henderson Independent Director



### **RESEARCH COLLABORATORS**



Dr. Rakesh Veedu is leading the Precision Nucleic Acids Theranostics Group, as a McCusker Research Fellow with the Perron Institute for Neurological and Translational Science, based at the Centre for Comparative Genomics at Murdoch University (Perth, Australia). He is an emerging expert internationally in the field of molecular medicine, using nucleic acid-based biotechnologies and developing novel nucleic acid as potential drug therapies for a range of neurological diseases, genetic disorders and solid cancers.



Professor Grant Ramm is currently the head of the Hepatic Fibrosis Laboratory and Coordinator of the Cell and Molecular Biology Department at QIMR-Berghofer, a leading medical research institute located in Brisbane, Australia.



### **RESEARCH COLLABORATORS**

### Dr. Ajit Shetty

Dr. Shetty has extensive pharmaceutical experience leading commercial and supply chain operations as well as significant educational background including a PhD in Metallurgy from Trinity College at Cambridge University. Dr. Shetty spent 36 years at Johnson & Johnson ("J&J") in a wide range of global roles. From 2007 to 2012, he served as Corporate Vice President, Enterprise Supply Chain reporting to the CEO and was responsible for the transformation and optimization of J&J's supply chain. In addition, from 2004 to 2012, he served as chairman of Janssen Pharmaceutical.

### Aditya Bahl

Mr. Bahl brings over 20 years of experience in pharmaceutical marketing and clinical development and is known for his entrepreneurship and creativity. He is the CEO and founder of RAS LSS, a boutique healthcare consulting group based in Germany providing strategic guidance to biotechnology and pharmaceutical companies on franchise and product strategy, clinical development and commercialization.



## PARTNERS







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