# A SPECIALTY LIFE SCIENCES COMPANY

Corporate Presentation
SEPTEMEBER 2024





OTCQB: FRANKFURT: RVVTF 31R

Revive Therapeutics Ltd. | Office: 1-888-901-0036 | E-mail: info@revivethera.com

# FORWARD LOOKING STATEMENTS

Certain statements contained in this presentation constitute forward-looking information within the meaning of securities laws. Forwardlooking information may relate to our future outlook and anticipated events or results and may include statements regarding our future financial position, business strategy, budgets, litigation, projected costs, capital expenditures, financial results, taxes and plans and objectives. In some cases, forward-looking information can be identified by terms such as "may", "will", "should", "expect", "plan", "anticipate", "believe", "intend", "estimate", "predict", "potential", "continue" or other similar expressions concerning matters that are not historical facts. These statements are based on certain factors and assumptions regarding, among other things, expected growth, results of operations, performance, and business prospects and opportunities. While we consider these assumptions to be reasonable based on information currently available to us, they may prove to be incorrect. Forward looking-information is also subject to certain factors, including risks and uncertainties that could cause actual results to differ materially from what we currently expect. These factors include, among other things, the availability of funds and resources to pursue development projects, the successful and timely completion of clinical studies, and the ability to take advantage of business opportunities, the granting of necessary approvals by regulatory authorities, and general economic, market and business conditions. For more exhaustive information on these risks and uncertainties you should refer to our most recently filed Annual Information Form which is available at www.sedar.com. Forward-looking information contained in this presentation is based on our current estimates, expectations and projections, which we believe are reasonable as of the current date. You should not place undue importance on forward-looking information and should not rely upon this information as of any other date. While we may elect to, we are under no obligation and do not undertake to update this information at any particular time.

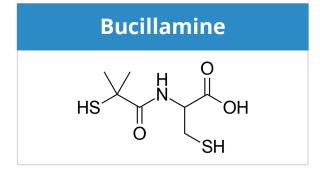
# **REVIVE THERAPEUTICS**



Focused on the development of therapeutics for infectious diseases, bioweapons and substance abuse



Advancing novel use of Bucillamine for Long COVID and medical countermeasures





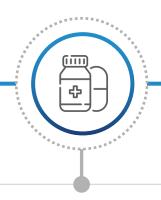
Developing oral Psilocybin for substance abuse disorders



Robust patent portfolio covering methods and compositions of drugs and delivery



# **STRATEGY**









#### **Clinical development**

- Bucillamine:
  - Long COVID
  - Nerve Agent Exposure
  - Emerging infectious diseases
- Psilocybin:
  - Substance abuse

### **Target Markets**

- Infectious Diseases
- Medical Countermeasures
- Mental Health
- Rare Disorders

#### **Intellectual Property**

- Novel Uses
- Formulations
- Delivery Systems

#### **FDA Designations**

- Orphan Drug
- Fast Track
- Breakthrough Therapy

# **INTELLECTUAL PROPERTY PORTFOLIO**



Title	Patent Appln. No.		
Use of Bucillamine in the Treatment of Infectious Diseases, including COVID-19	62/991,996, PCT/CA2021/050350, CAD 3,172,170, US 17/912,597, Japan 2022- 556099, EP21772039.0, South Korea 10-2022-7036230, Hong Kong 62023075486.8		
Use of Bucillamine in the Treatment of Gout	9,662,305 US Granted – May 30, 2017		
Use of Bucillamine in the Treatment of Neurological Brain Injury and Migraines	63/546,405		
Method and use of Bucillamine in the Prevention and Treatment of Stroke	PCT/CA2023/050425		
Bucillamine in the treatment of a victim exposed to a chemical warfare agent	63/529,230		
Drug Delivery System	US 8642088 US 9545423 US 10104888	Issued on February 4, 2014 Issued on January 17, 2017 Issued on October 23, 2018	
Methods for the Extraction and Crystallization of Psilocybin	62/985,360, 18/372,246		
Psilocybin in the Treatment of Neurological Brain Injury	63/011,493, PCT/CA2021/050360, EP21788518.5, US 17/919,420, CAD 3,175,679		
Use of Cannabidiol in the Treatment of Autoimmune Hepatitis	8,242,178 US Granted Issue on August 14, 2012		
Pharmaceutical Formulations and Methods for Sublingual and Buccal Administration	18/140,186		

# **PRODUCT PIPELINE**

#### Focus on Infectious Diseases, Medial Countermeasures, Substance Abuse

Produc	t
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Bucillamine (Oral Tablet)

Bucillamine (Oral Tablet)

Bucillamine

Oral Psilocybin (Oral Capsule)

#### Indication

Infectious Diseases COVID-19

Infectious Diseases Long COVID

Medical Countermeasures Nerve Agent

Substance Use
Disorder
Methamphetamine

#### **Stage of Development**

Completed Phase 3

Phase 2

Pre-clinical

Phase 1/2

#### **Regulatory Status**

Determining next steps and international opps

IND filing for clinical study

Defence R&D Canada – Research funded by Suffield Research Centre, Canadian Department of National Defence

After study completion, to prepare for FDA end-of-Phase 2 meeting

# INFECTIOUS DISEASE OPPORTUNITY









# Bucillamine potential\_for COVID-19

 Potential treatment for reduction in hospitalizations, clinical symptoms and for long COVID

# **Bucillamine Safety Profile**

Well-known safety profile and prescribed for arthritis in Japan and South Korea for over 30 years

# Revive's clinical history with Bucillamine

- Completed Phase 3 study for COVID-19 in over 700 subjects; determining clinical application for long COVID
- Obtained 2 FDA INDs with Bucillamine and FDA orphan drug status (cystinuria, ischemia-reperfusion)
- FDA Phase 2 clinical study for acute gout flares and cystinuria

# Bucillamine scientific rationale as an intervention for COVID-19 (see Appendix)

- BUC is 16x more potent than particularly N-acetylcysteine (NAC); NAC has shown to prevent acute lung injury caused by influenza virus
- BUC shown superior function in restoring glutathione and therefore greater potential to prevent acute lung injury during influenza infection
- BUC also shown to prevent oxidative and reperfusion injury in heart and liver tissues
- BUC proven safety and MOA similar to NAC, but with much higher potency

## **PSYCHEDELICS PROGRAMS**



#### **Psilocybin for Substance Abuse Disorders Program**

 Collaboration with University of Wisconsin-Madison for the clinical development of Methamphetamine use disorder





#### **Novel Psilocybin Biosynthesis Enzymatic Platform**

 Collaboration with NCSU, under Dr. Gavin Williams, to develop a simple method for rapidly producing psilocybin using an engineered enzymatic pathway in E. coli



## **FORMULATION & DELIVERY TECHNOLOGY**

# Delivering naturally extracted and synthetic psychedelics



#### **DELIVERY SYSTEM**

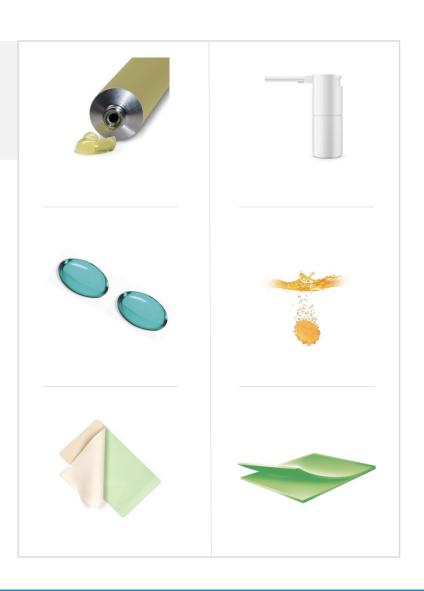
Combines **Tannin** (antibacterial, antifungal, antioxidant, wound healing) and **Chitosan** (blood-clotting and antimicrobial) composites

 Releases (rapid, controlled, sustained), improved bioavailability, no first-pass metabolism



#### **PSILOCYBIN**

Precise dosed formulations



# **STRATEGIC PARTNERS**







Psilocybin Biosynthesis



Clinical Research Psilocybin

## **EXPECTED MILESTONES**



- FDA submission of Phase 2 study for Bucillamine to treat LONG COVID
- Results of Bucillamine for nerve agent exposure at DRDC



- FDA approval of Phase 2 study for Bucillamine to treat LONG COVID
- Interim-results of Phase 1/2 study for Psilocybin (Methamphetamine Use Disorder) at University of Wisconsin
- Complete reformulation of Bucillamine IV for future studies in infectious diseases and rare disorders

## **TEAM**



#### Management

- Michael Frank
   Chairman and CEO
- Carmelo Marrelli
   Chief Financial Officer
- Derrick Welsh Advisor



### **Clinical & Regulatory**

- Dr. Kelly McKee, Jr., MD, MPH
   Chief Scientific Officer, Consultant
- Dr. Arshi Kizilbash, M.D. Medical Advisor, Consultant
- Dr. Onesmo Mpanju, PhD
   FDA Regulatory Affairs, Consultant



#### **Board of Directors**

- Michael Frank
   Chairman and CEO
- William Jackson
   Director
- Joshua Herman Director
- Christian Scovenna Director
- Andrew Lindzon
   Director

# **STOCK INFORMATION**



**Ticker** 

RVV (CSE) | RVVTF (OTCQB) | 31R (Frankfurt)



52-Week High/Low

CAD \$0.055 / \$0.005



**Market Cap** 

CAD ~ \$4,100,000



**Share Price** 

CAD \$0.01 (September 19, 2024)



**Capital Structure** 

418,564,269 common shares 35,320,334 stock options 63,317,263 warrants (\$0.05 - \$0.20)

# **APPENDIX – BUCILLAMINE SCIENTIFIC RATIONALE FOR COVID-19**

Current antiviral interventions for influenza have exhibited modest efficacy, especially in improving mortality in at-risk populations, such as the elderly. Novel antivirals have been plagued by poor oral bioavailability and lack of efficacy when not delivered early. This is because these drugs mostly act to prevent the early processes of virus binding to cells or viral replication. Thiols, particularly N-acetylcysteine (NAC), with antioxidant and reducing activity have been investigated as effective therapies that abrogate the potential for influenza to cause severe disease. Restoration of glutathione, the major intracellular thiol antioxidant, is a critical functional activity of NAC. Reactive oxygen species (ROS) generation during influenza virus infection aggravate destructive inflammation and programmed death of epithelial cells. Studies in human cells and animal models have shown that NAC works to prevent acute lung injury caused by influenza virus infection through inhibition of these ROS-mediated mechanisms. NAC has been investigated clinically and found to significantly attenuate clinical symptoms associated with influenza infection, especially in elderly at-risk patients. While NAC is easily taken up by cells and has low toxicity, clinical efficacy has required long-term and high-dose administration because of modest relative potency, limiting its clinical applicability.

Bucillamine (N-(mercapto-2-methylpropionyl)-l-cysteine), which has a well-known safety profile and is prescribed in the treatment of rheumatoid arthritis in Japan and South Korea for over 30 years, is a cysteine derivative with 2 thiol groups that is 16-fold more potent than NAC as a thiol donor in vivo, giving it vastly superior function in restoring glutathione and therefore greater potential to prevent acute lung injury during influenza infection. Bucillamine has also been shown to prevent oxidative and reperfusion injury in heart and liver tissues and is highly cell permeable for efficient delivery into cells. Bucillamine has unrealized potential for the treatment of influenza with both proven safety and proven mechanism of action similar to that of NAC, but with much higher potency, mitigating the previous obstacles to using thiols therapeutically. It is also reasonable to hypothesize that similar processes related to ROS are involved in acute lung injury during nCov-19 infection, possibly justifying the investigation of Bucillamine as an intervention for COVID-19.

# **APPENDIX – BUCILLAMINE SCIENTIFIC RATIONALE FOR COVID-19**

#### References

- 1. <u>Muthuri SG, Venkatesan S, Myles PR et al. Effectiveness of neuraminidase inhibitors in reducing mortality in patients admitted to hospital with influenza A H1N1pdm09 virus infection: a meta-analysis of individual participant data Lancet Respir Med. 2014 May;2(5):395-404. doi: 10.1016/S2213-2600(14)70041-4.</u>
- 2. <u>Duwe S. Influenza viruses antiviral therapy and resistance. GMS Infect Dis. 2017; 5: Doc04.</u>
- 3. Zhang RH, Li CH, Wang CL et al. N-acetyl-l-cystine (NAC) protects against H9N2 swine influenza virus-induced acute lung injury. Int Immunopharmacol. 2014 Sep;22(1):1-8. doi: 10.1016/j.intimp.2014.06.013.
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- 5. <u>De Flora S, Grassi C, and Carati L. Attenuation of influenza-like symptomatology and improvement of cell-mediated immunity with long-term N-acetylcysteine treatment. Eur Respir J 1997; 10: 1535–1541 DOI: 10.1183/09031936.97.10071535</u>
- 6. Poole LB. The Basics of Thiols and Cysteines in Redox Biology and Chemistry. Free Radic Biol Med. 2015 Mar; 0: 148–157. doi: 10.1016/j.freeradbiomed.2014.11.013.
- 7. Mata M, Morcillo E, Gimeno C, Cortijo J. N-acetyl-L-cysteine (NAC) inhibit mucin synthesis and pro-inflammatory mediators in alveolar type II epithelial cells infected with influenza virus A and B and with respiratory syncytial virus (RSV). Biochem Pharmacol. 2011 Sep 1;82(5):548-55. doi: 10.1016/j.bcp.2011.05.014.
- 8. Horowitz LD. Bucillamine: a potent thiol donor with multiple clinical applications. Cardiovasc Drug Rev. 2003 Summer;21(2):77-90.
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