





#### VIRTUAL INVESTOR BRIEFING PRESENTATION

**10 June 2020 – Perth, Australia:** PharmAust Limited (ASX:PAA), a clinical-stage oncology company, is pleased to provide the investor presentation to be delivered during today's Virtual Investor Briefing to be held at 12.00 pm AWST / 2:00 pm AEST.

Executive Chairman, Dr Roger Aston will provide an update on the status of the development of the Company's primary drug candidate, Monepantel (MPL) including discussion on the significant progress in recent trials.

To access further details of event and to register, please copy and paste the following link into your internet browser:

#### https://us02web.zoom.us/webinar/register/WN\_tFrWWqeSQYuKIMjiQIILQA

A recorded copy of the Virtual Investor Briefing will be made available following the event.

This announcement is authorised by the Board.

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#### About PharmAust (PAA):

PAA is a clinical-stage company developing targeted cancer therapeutics for humans and animals. The company specialises in repurposing marketed drugs lowering the risks and costs of development. PAA's subsidiary, Epichem, is a successful contract medicinal chemistry company.

PAA's lead drug candidate is monepantel (MPL), a novel, potent and safe inhibitor of the mTOR pathway – a key driver of cancer. MPL has been evaluated in Phase I clinical trials in humans and dogs; was well tolerated and produced a significant reduction in key prognostic biomarkers. PAA is uniquely positioned to commercialise MPL for treatment of human and veterinary cancers as it advances the drug in Phase II clinical trials.



Pitney Pharmaceuticals Pty Ltd: "repurposing" Monepantel in oncology and in mTOR Disease

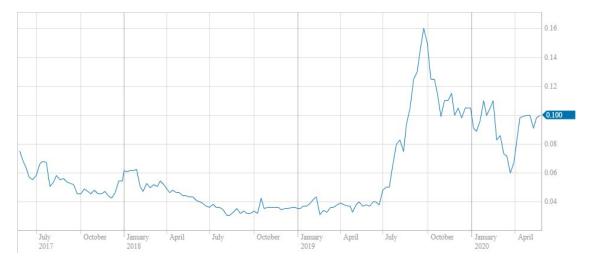
Epichem Pty Ltd:
Medicinal & Synthetic Chemistry
Expected 2019-2020 sales A\$ 3.46m+



# About PharmAust Limited (ASX:PAA)

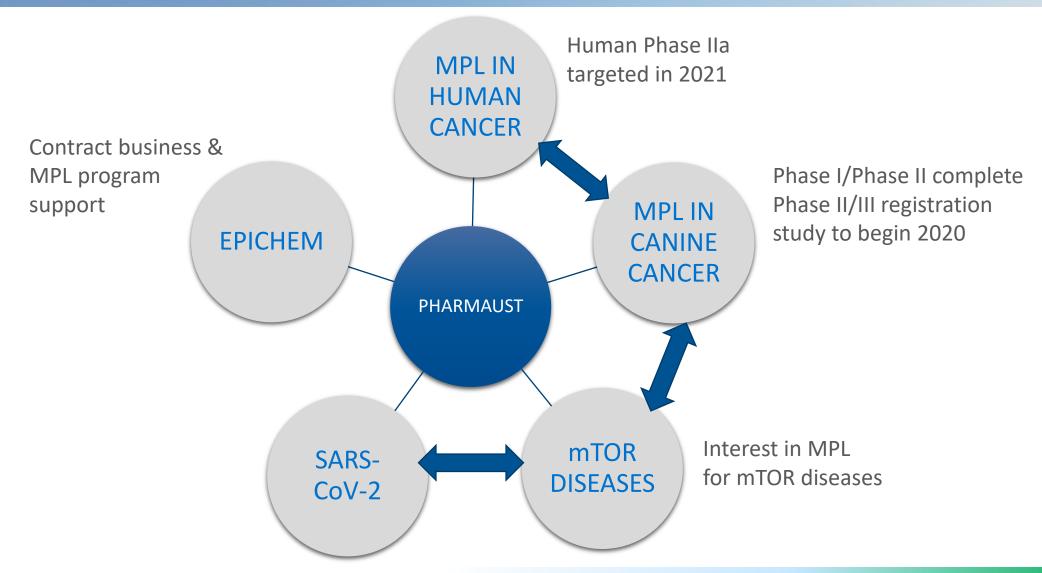
- PharmAust is an Australian clinical stage oncology company repurposing the drug Monepantel (MPL) for targeted cancer therapeutics in humans & animals
- Successful canine phase II clinical trials recently completed & results to be presented to the MPL compound owner and partner referred to here as Vet Major, providing opportunity to activate its 6-month exclusive option over the licensing of MPL
- Wholly owned and profitable subsidiary, Epichem: Sales ~\$3.46m in FY2019/20 & support for MPL program
- Extensive Board experience in pharmaceutical, healthcare & corporate finance industries

ASX Code:	PAA
Market Cap at \$0.11	\$35M
Cash (approx at May 2020)	~\$2.9M
Debt (EFIC: Epichem lab expansion)	\$217K
Epichem Revenue Forecast FY2020	\$3.46M
Total Shares on Issue	302,021,053
Options (Unlisted)	15,500,000
Top 20 Own	37%
Board/Exec Own	9.3%



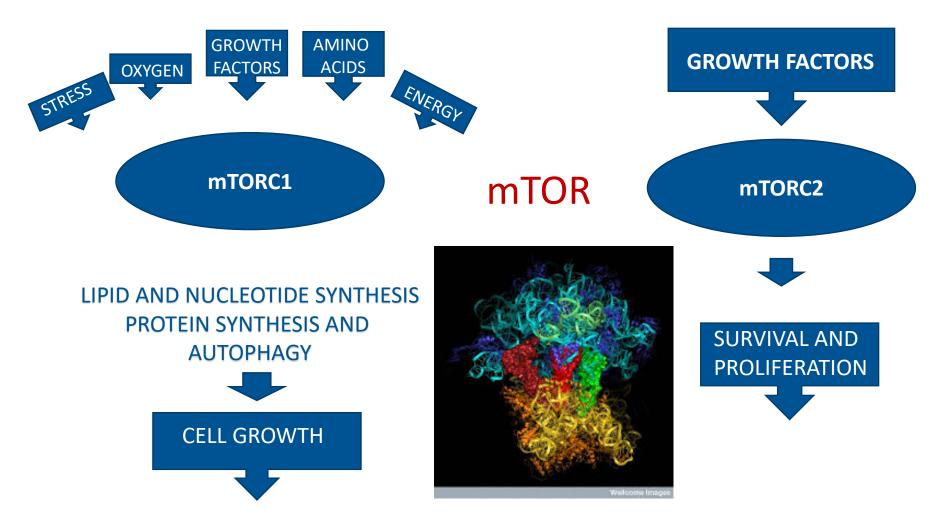


## **PharmAust Strategy**





## mTOR – What Does it Do



https://www.abc.net.au/radionational/programs/healthreport/battling-mutating-cancer-cells/12326932



### PharmAust – Current Status

## PHASE II CANINE TRIAL

- Outcome of Phase II B Cell lymphoma veterinary clinical trial
- 100% Survival during the trial (Typically 50% of untreated dogs would not survive for 28 days)
- 1 canine showed highly significant 60% regression of all of its tumours with one tumour completely disappearing within 14 days
- A further 5 canines on trial showed stable target tumours

### **VET MAJOR**

- Vet Major has supported the Phase II trial by providing 25kg of MPL
- PharmAust has developed & formulated MPL from Vet Major into palatable high release tablets suitable for canine & human use
- Vet Major will review data in relation to next step with option agreement

### EXPANDING APPLICATIONS OF MPL

 Outcome in canine trial opens door for use of MPL in human cancer trials

### SARS-CoV-2 COVID-19

 Preliminary preclinical trials of MPL in SAR-CoV-2 (COVID-19) infection shows significant reduction of infectivity in culture





# Monepantel (MPL) In Oncology

### A UNIQUE ANTI-CANCER PARADIGM

Availability of GMP quality drug

Manufacture in place through partner

Allows high dose therapy

- Very low toxicity on normal cells
- mTOR REGULATOR

- Already registered as a veterinary medicine
- Simpler path to registration

Access to registration dossier for safety, toxicology

Validation in various cancer models

- Mice, canines & man: extensive evaluations
- Progression free survival



# **PharmAust Commercial Catalysts**

MPL	Repurposing drug approved for veterinary use		
PATENTS	PharmAust has granted patents for the use MPL in cancer & other diseases		
CLINICAL STRATEGY	MPL ready for dose optimisation & evaluation for use in standard of care in vet (Phase III) & Phase IIa in man		
COVID-19	New commercial opportunity in antiviral therapy based on mTOR activity of MPL		
EPICHEM	Sales ~\$3.46m in FY2019/20 & support for MPL program		





## INTELLECTUAL PROPERTY

Numerous Cancers included in Patents for MPL mTOR Pathway for Aminoacetonitriles Synergy & Benefit of Combinations with other Cancer Treatments Cover for numerous analogues of MPL Use of MPL and aminoacetonitrile in COVID-19



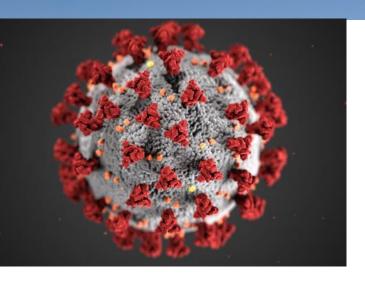
## Vet Major Animal Health – Option Agreement



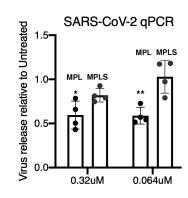
- **Monepantel** compound is owned by **Vet Major**, approved for treatment of parasitic infections in sheep (patent protection to 2024)
- Option agreement with Vet Major to exclusive, worldwide royalty bearing license to commercialise MPL for treatment of cancer in animals
- Vet Major Option period ending six months after receipt of the final report on the recent canine trial
- Upon Option exercise, parties enter into a negotiation period not lasting more than six months to agree terms of the license agreement including commercial payments to PharmAust
- Should Vet Major not proceed to exercise the option PharmAust will be free to seek alternative commercialisation partners
- A licensing deal typically involves an upfront cash payment in recognition of the investment in developing the drug, as well as a royalty on sales of the drug plus additional milestone payments for successful achievement of registration milestones
- Such a deal would mark a significant **commercial outcome** for PharmAust & see it fully funded to focus on **human cancer** market



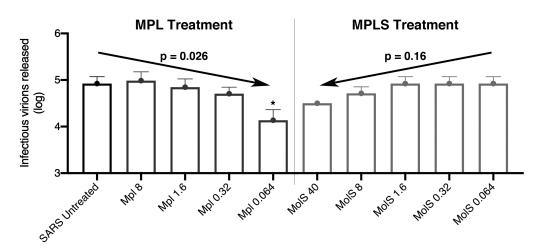
### SARS-CoV-2 - COVID-19

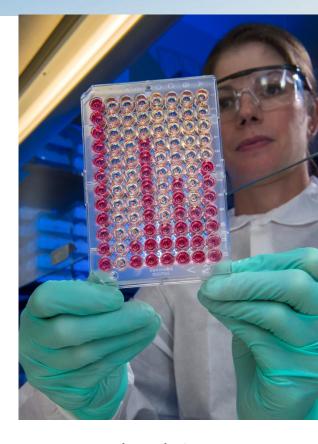


- Vaccines will take time to test & introduce
- Changes in the viral structure may require changes to the vaccine
- Other than remdesivir little available to treat pre or post intensive care stage









- Reduced virus RNA
- Reduced infectivity

Illustrations, created at the Centers for Disease Control and Prevention (CDC)



# >\$2 Billion market for approved mTOR Drugs

### THE MORE IMPORTANT LIMITATIONS OF mTOR DRUGS ARE SIDE EFFECTS AND RESISTANCE

Compound	Company	Approved Indications	2013 – 2019 Annual Sales Cancer (USD million)	Side effects
Sirolimus (rapamycin) Temsirolimus	Pfizer	Transplantation Transplantation renal canal cell carcinoma Mantle cell Tymphoma	Sirolimus Temsirolimus 1,000*	infections nausea weakness diarrhea fever rash swelling cough vomiting itching chest pain headache
Afinintor (Everolimus)	Novatis	Transplantation renal canal cell carcinoma breast cancer NET (gut, lung, pancreas)	>1500**	

<sup>\*</sup>Flewell and Goldman 2007, R. Monto, The Fountain, 2018, Random House USA Inc p 195

<sup>\*\*</sup> https://www.novartis.com/investors/financial-data/product-sales;



## Initial Market - Pets & Cancer

- 6 million dogs diagnosed with cancer annually in the US
- Significant unmet need for new oncology drugs
   (Estimated unpublished reports of US\$500m-US\$1b market, representing 25% of total available market. <sup>1</sup>US market alone = ~USD 100 million)
- Side effects associated with products & treatments are limiting market growth (Monepantel comparatively has minor side effects & no toxicity)
- Vet therapeutic market dominated by repurposed drugs already approved for use in humans &/or animals (= monepantel)
- Pet insurance now commonplace: wtp = \$2 \$5k/ treatment<sup>2</sup>
- Canines are a close reflection of human outcomes with MPL



- 1. Global Industry Report, 2020 2027
- 2. http://www.americanpetproducts.org/press industrytrends.asp



## PharmAust – Next Steps

- Canine trial Present to Vet Major as per Option Agreement
- Re-Open human use programme >USD52b market
- Progression of the human trial including further development of formulation
   & manufacture of additional tablets
- COVID-19 discussions with Walter and Eliza Hall Institute for any further required preclinical work
- Open discussions with key centres for use of MPL in COVID-19 patients





### **EPICHEM PTY LTD: Medicinal & Synthetic Chemistry Expertise**

Worldwide customer base in pharmaceutical, mining, agriculture and animal health sectors State of the art facilities

### **Medicinal Chemistry & Drug Discovery**

- Hit-to-Lead projects
- Lead optimisation towards candidate selection
- Synthesis of analogue libraries and scale up
- IP Generation
- Drug conjugates, fluorescent tags & metabolites
- Cost effective, flexible FTE contract options

# **Supporting PharmAust Drug Development Pipeline**

- Lead drug development & validation
- Drug candidate pipeline manufacture & analysis
- Drug reformulation, GMP synthesis & stability support
- Drug inventory dispensing to clinical trial centres

### **Proven Track Record of Success**

- SFC chromatography, computational chemistry, X-ray, ADMET, HPLC, LC-MS, GC-MS, NMR, Karl Fischer, melting point apparatuses
- ISO 9001 Certified; NAT 17025 & 17034 Accredited
- 2019 WA Exporter of the Year Award for International Health
- GHP Biotechnology 2020 Awards Most Innovative Chemistry Service Provider - Australia
- GHP Biotechnology 2020 Awards Best in Organic Chemistry Solutions



## **Experienced Board & Management Team**

### Dr Roger Aston, Executive Chairman & CEO

- > 30 years experience in the pharmaceutical & healthcare industries
- Director or chairman on a number of boards carrying out late stage drug development
- Former CEO of Mayne Pharma Ltd

### **Robert Bishop, Executive Director**

- > 30 years experience in corporate finance and equity capital markets
- Lawyer and an investment banker

### Sam Wright, Finance Director & Co Sec

- > 20 years experience in biotech and healthcare
- Extensive experience in relation to public company responsibilities, including ASX & ASIC compliance, corporate governance & statutory financial reporting

### **Neville Bassett, Non-Executive Director**

- Member of the Order of Australia (AM)
- > 35 years working in accounting, finance & stockbroking
- Chairman of Westar Capital Ltd

### **Dr Richard Mollard, Chief Scientific Officer**

- CEO of subsidiary Pitney Pharmaceuticals Pty Limited
- Ex University Louis Pasteur/ IGBMC/ Bristol Myers Squibb, University of Michigan/ Eli Lilly & Co & Monash University
- Honorary Fellow at the University of Melbourne

### Colin La Galia, Epichem CEO

- > 25 years of pharmaceutical, diagnostics & healthcare senior executive experience
- Ex Abbott Rapid Diagnostics in Toxicology, Alere Inc, Origin Healthcare, Hollywood Fertility Centre, GlaxoSmithKline & Merck Sharpe & Dohme



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