



Annual General Meeting 5 November 2020

Pitney Pharmaceuticals Pty Ltd
“repurposing” Monepantel in
veterinary & human diseases

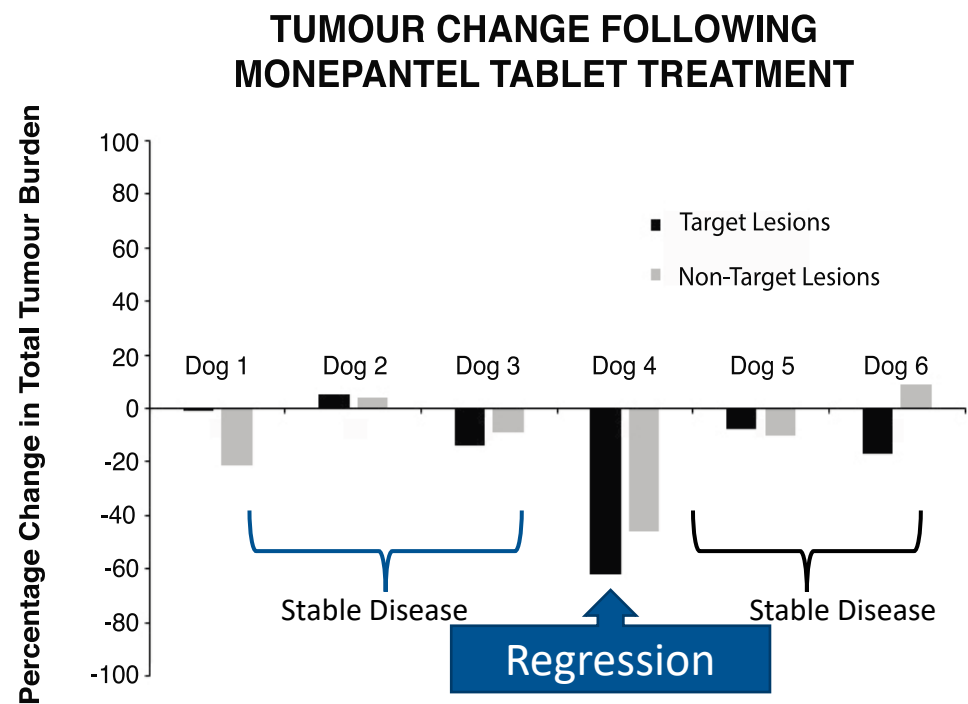
100%
OWNED SUBSIDIARIES

Epichem Pty Ltd
Medicinal & synthetic chemistry
Profitable (\$AUD3.54M revenue FY20)

Shareholder Presentation AGM 2020

MPL in cancer: phase II trial – first line therapy in B-cell lymphoma

Without treatment the life expectancy in dogs with lymphoma is 1-2 months
typically lymph nodes will double in size every month and 80% of owners will have the dog put down



TUMOUR BURDEN RESPONSE

Participant	D14 Target Lesions	D28 Target Lesions
1	SD	SD
2	SD	N/A
3	SD	SD
4	PR	N/A
5	SD	SD
6	SD	SD

SD = stable disease
PR = partial response

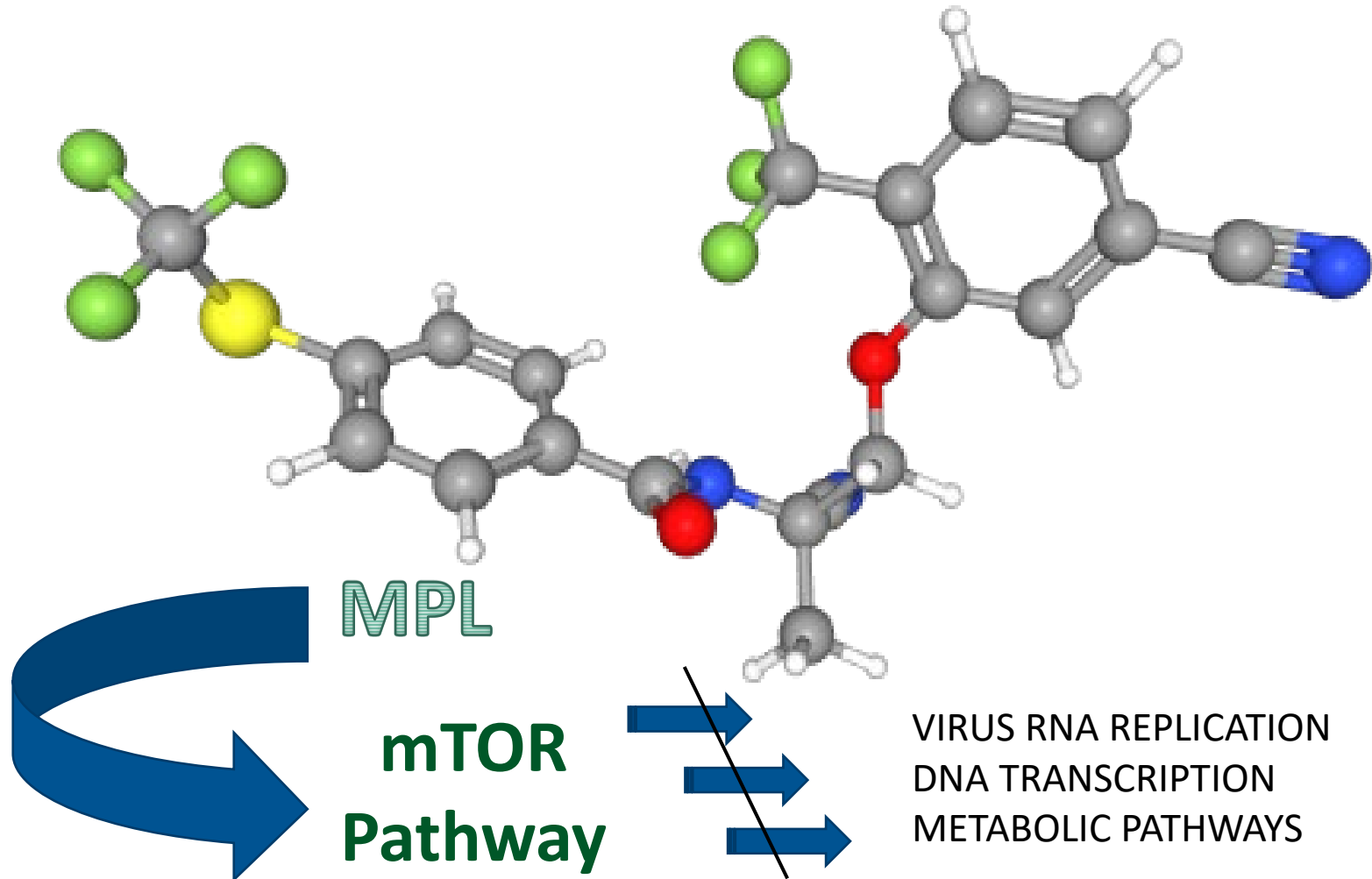
NEXT STEP FURTHER SMALL TRIAL TO OPTIMISE DOSING & MAXIMISE TUMOUR REGRESSION

MPL – multiple initiatives emerging from central mechanistic mTOR pathway

1. Small trial to begin in Q1 2021 to Optimise MPL dose for B-cell lymphoma in canines
2. Engaging with leading global pharmaceutical companies to commercially license MPL for anti-cancer treatments in pet animals
3. Continuing preparations for human trial with MPL
4. Evaluating MPL in the progression of motor neurone disease (Clinical Trial Grant of \$880k from FightMND)
5. Following WEHI & 360 biolabs *in vitro* work demonstrating repeatable evidence of inhibition of SARS-CoV-2 replication (the virus that causes COVID-19), Leiden University Medical Center to report on *in vivo* work being done for PharmAust by end CY2020
6. Strong cash balance (\$3.9m) & established strategy to produce additional tablets when needed
7. Profitable subsidiary Epichem (\$AUD3.54M revenue FY20) undertaking proprietary projects in medicinal chemistry, pharmaceutical reference materials in partnership with domestic & international clients; supports the PharmAust drug development pipeline; enters into JV to develop OHD biomass technology

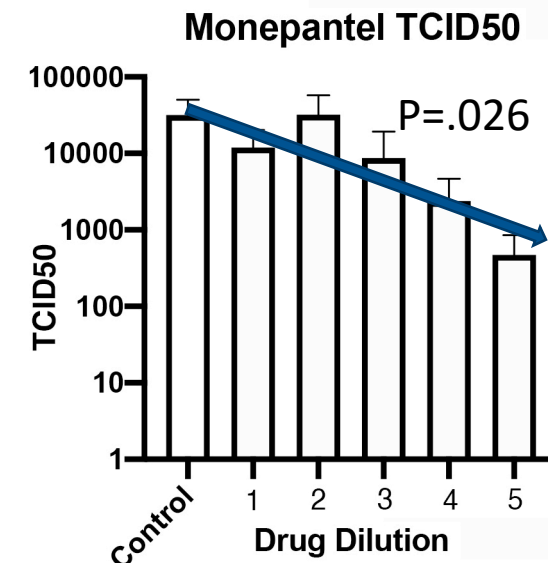
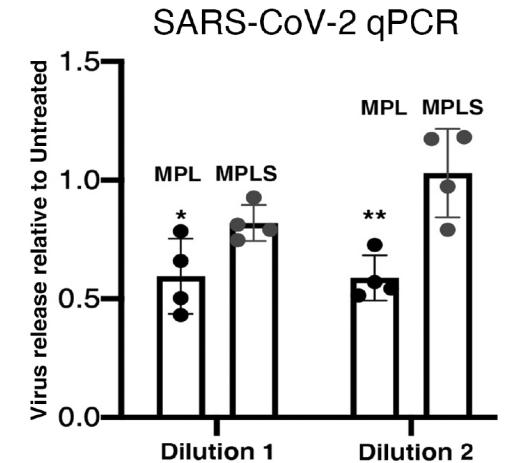
Diverse functionality through selective mTOR regulation

- Selective mTOR inhibitor
- Demonstrated by Olivia Newton John Cancer Centre to inhibit DNA transcription
- Demonstrated repeatable evidence by WEHI & 360 Biolabs to inhibit SARS-CoV-2 replication (the virus that causes COVID-19)
- Major grant funding to clinically evaluate MPL in patients with motor neuron disease
- Optimisation trial for canine anti-cancer use to facilitate commercial licensing



MPL: SARS-CoV-2/COVID-19

- A vaccine for COVID-19 is yet to be developed - Changes in the viral structure may require changes to the vaccine
- Remdesivir an approved antiviral is not a cure - intravenous therapy whereas MPL can be administered orally as a tablet (annual sales est: USD \$2-7 billion)
- Remarkable anti-viral activity by MPL & MPLS at 90%+ shown in non-human primate & human cell lines
- Organoid work, precursor to clinical trial
- Following WEHI & 360 biolabs *in vitro* work demonstrating repeatable evidence of inhibition of SARS-CoV-2 replication, PharmAust to evaluate MPL suitability for *Ex-Vivo* Human COVID-19 Testing
- PAA is increasing its focus on COVID-19 with EU & US collaborators expressing interest in preparing the ground for human clinical trials



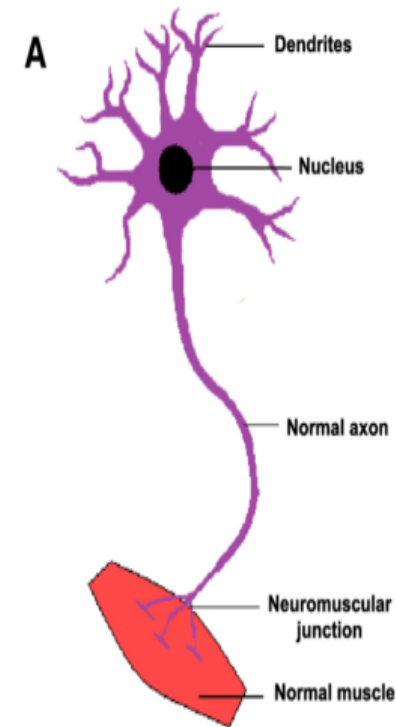
Motor Neurone Disease – FightMND funded phase I human trial

- **Motor neurone disease**, also known as amyotrophic lateral sclerosis (ALS), occurs when specialist nerve cells in the brain & spinal cord called **motor neurones** stop working properly. This is known as neurodegeneration
- **Motor neurones** control important muscle activity, such as: gripping & walking. MND is almost always fatal although occasionally patients can live for extended periods (Stephen Hawking)
- **Life expectancy** 2-3 years
- **People with MND** typically become paralysed & lose speech

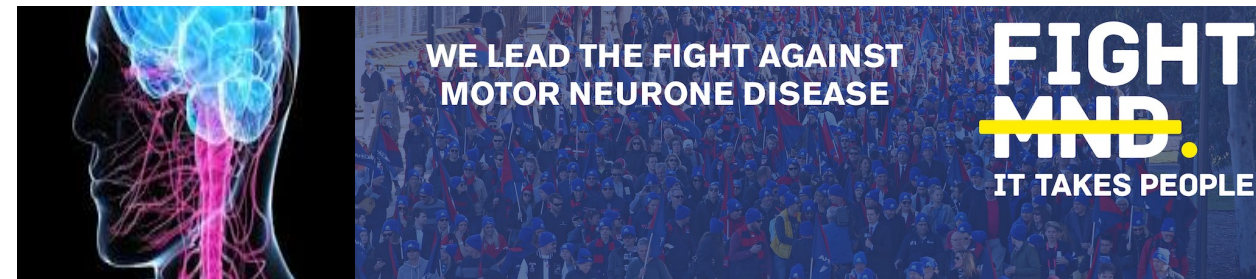
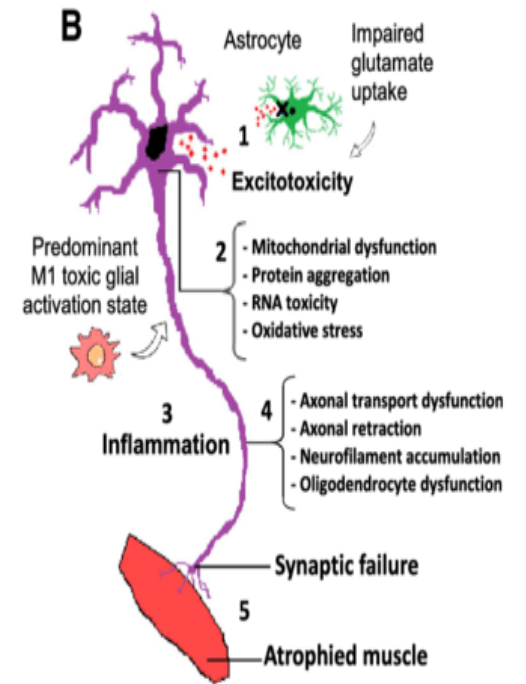
PharmAust will receive \$881,085 from FightMND to evaluate MPL in the treatment of NMD patients. Dr Susan Mathers will oversee the project for PharmAust

Global amyotrophic lateral sclerosis (ALS/MND) treatment market is expected to rise to an estimated USD 3.6 billion by 2026, registering a CAGR of 21.6%

Normal Spinal Motor Neuron



Motor Neuron Injury in ALS





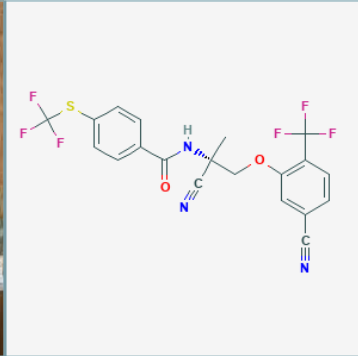




PharmAust activity timeline

Activity	Details	Timing
Compassionate use in pet dogs	On-going with current MPL tablets	Q4 2020 & ongoing
Commence manufacture of 10 kg of MPL	For evaluation in human clinical trials: FightMND, COVID-19 & human cancer	Q4 2020
COVID-19 pre organoid work	To enable transition to organoids, requirement for COVID-19 human clinical trial	Q4 2020
Phase II pet dog cancer trial continuation	Current tablets, optimising dosing	Q1 2021
Continuation mechanism of action work with ONJCRI	Looking at MPL effects in genetic pathways & targets	Q1/Q2 2021
Organoid work	Prerequisite for COVID-19 human clinical trials	Q1/Q2/Q3 2021
Complete manufacture of 10 kg of MPL	For use in human clinical trials: FightMND, COVID-19 & human cancer	Q3 2021
Phase III pet dog cancer trial	Current tablets, after phase II trial continuation	Q3/Q4 2021
Tablet manufacture MPL	Smaller dose tablets	Q3/Q4 2021
Commence FightMND phase I/II trial	After 3 month tablet stability data	Q4 2021
Commence COVID-19 phase II trial	After initial PK data from FightMND trial	Q1 2022
Commence human cancer phase II trial	After initial PK data from FightMND trial	Q1 2022
Commence alternative neurodegenerative phase II trial	After initial PK data from FightMND trial	Q1 2022

Catalysts for Progress

MPL

						
Patents IP cover to 2033 Free to continue R&D	Manufacture – API & finished form developed	Extensive safety	Human & veterinary experience	Mechanism of action mTOR pathway	Already registered drug	Several commercial targets opportunities
IP	MANUFACTURE	SAFETY	EFFICACY	MECHANISM	REPURPOSING	MULTIPLE SHOTS AT GOAL



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Worldwide customer base in pharmaceutical, biotech, start ups, mining, agriculture & animal health sectors

State of the art, purpose-built facilities

Medicinal chemistry & drug discovery

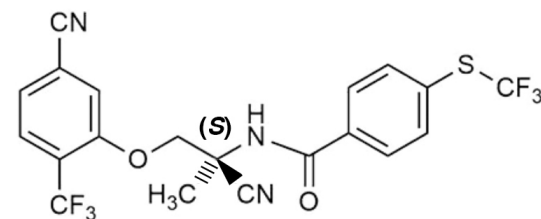
- Hit-to-lead projects
- Lead optimisation towards candidate selection
- Synthesis of analogue libraries & scale up
- IP generation
- Drug conjugates, fluorescent tags & metabolites
- Cost effective, flexible FTE contract options
- Pharmaceutical reference standards
- Custom synthesis
- Analytical chemistry & problem solving capability

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
- Joint Venture to establish Perren to promote novel, disruptive, patent-protected technology to convert biomass into end user products with market verticals



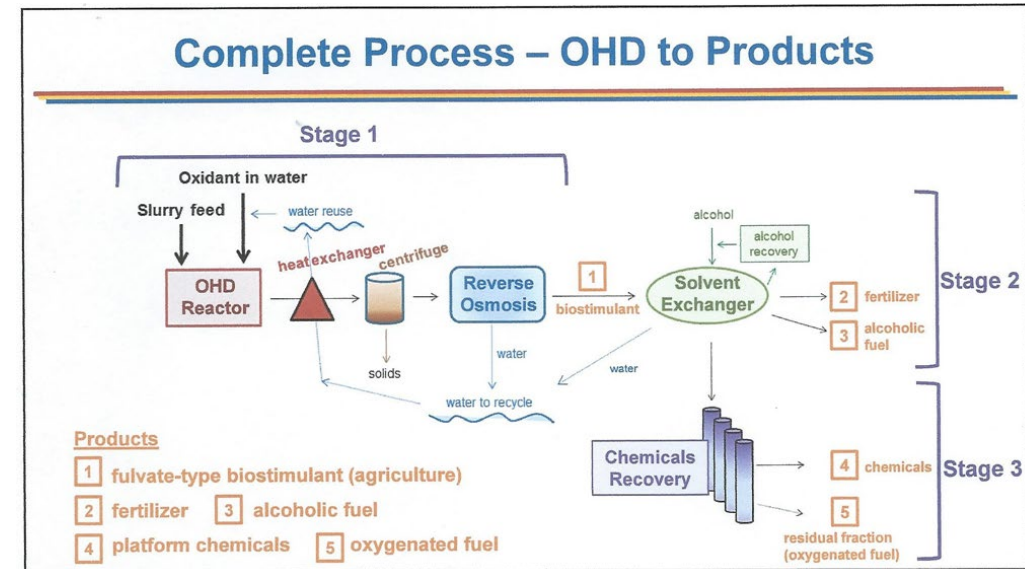
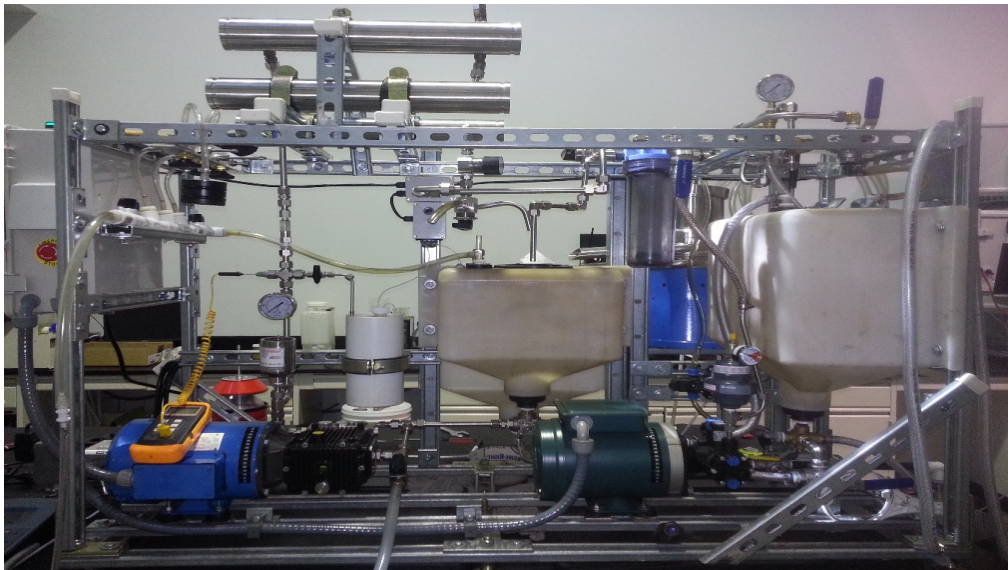
Biomass waste to fuel technology – “OHD”

Oxidative Hydrothermal Dissolution

Integrated non-catalytic process:

For the production of fuels and high value chemicals:

From macromolecular organic solids including biomass such as municipal waste and straw, plastic, tyres, oil shale and coal.



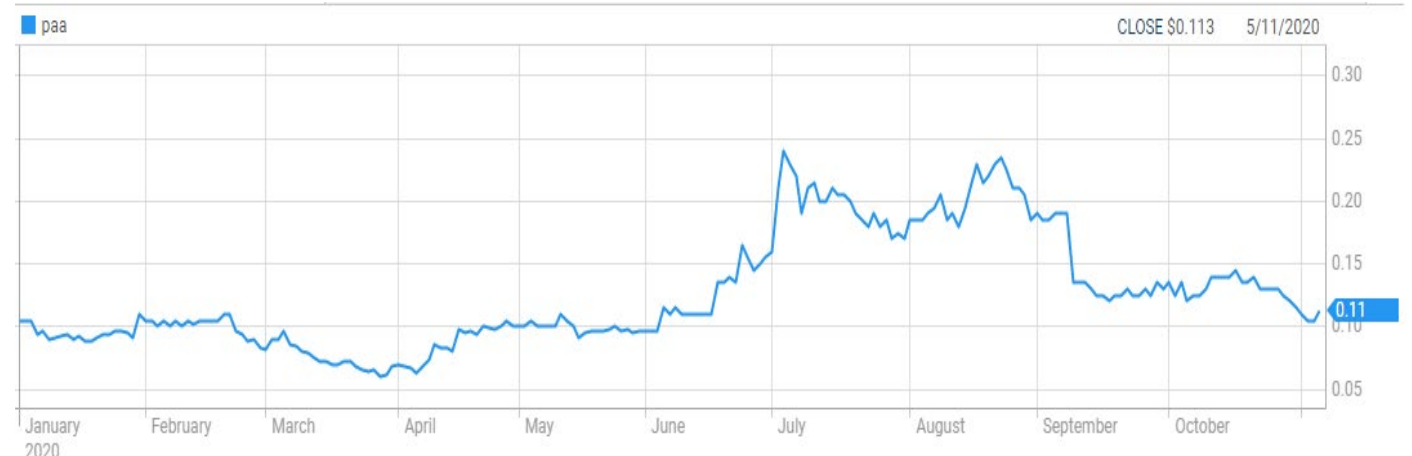
- OHD is a novel continuous , hydrothermal process to convert macromolecular organic solids into low molecular weight organic chemicals using only
 - Elevated temperature [± 270 C]
 - High pressure [± 2500 psi]
 - Liquid Water
 - Molecular oxygen

About PharmAust Limited (ASX:PAA)

PharmAust is an Australian clinical stage company repurposing the drug Monepantel (MPL) for the treatment of human & veterinary disease with emphasis on:

- Canine & human cancers, phase II clinical trial recently completed; optimisation of dose study to be undertaken to strengthen data
- Three successful pre-clinical studies demonstrating meaningful anti-viral activity against SARS-CoV-2/COVID
- Grant award of \$880,000 by FightMND to evaluate MPL in the progression of motor neurone disease
- Profitable subsidiary: Epichem provides contract manufacture & support for MPL program: sales ~\$3.54m in FY2019/20
- Experienced board

ASX Code:	PAA
Market cap at \$0.11	\$33.2M
Cash (at Oct 2020)	~3.9M
Debt (EFIC: Epichem lab expansion)	\$146K
Total shares on issue	316,229,920
Options (unlisted)	1,425,000
Top 20 own	37%
Board/exec own	9.3%



Thank you

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