Monepantel has anti-cancer effects across multiple cancer types

- Research on monepantel at the Olivia Newton-John Cancer Research Institute and associated collaborative cancer centres has been published in the Wiley peer review journal
- That research shows that monepantel has broad anti-cancer effects across multiple cancer types (melanoma, lung, breast, brain, colorectal, prostate, and ovarian)
- Monepantel's ability to fight cancer is likely due to its effects on the cell cycle, autophagy and mTOR signalling. Identifying these mechanisms triggers the drug's anti-cancer activity
- Access to the published manuscript can be found at: https://onlinelibrary.wiley.com/doi/10.1002/cam4.6021

9 May 2023 – Perth, Australia: PharmAust Limited (ASX: PAA & PAAO), a clinical-stage biotechnology company, provides an update on studies performed at the Olivia Newton-John Cancer Research Institute, Heidelberg, VIC, Australia, associated with the anti-cancer mechanism of action of monepantel (MPL).

This newly released research report highlights that MPL can stop the growth of many types of cancer cells. In some cases this happens through apoptosis, where the cells die off. However, even when apoptosis doesn't happen, MPL can still stop the cells from reproducing by disrupting the cell cycle.

PharmAust Executive Chairman, Dr Roger Aston commented, "this analysis of the mechanisms of action of MPL in conjunction with its very low toxicity offers a potential new paradigm in the regulation and management of cancer."

It was noted that other studies have suggested that MPL can also cause a different kind of cell death called autophagy. This research identified that autophagy isn't necessary for the drug to be effective.

When the researchers analysed the genes in the cancer cells treated with MPL they found that many of the genes involved in cell division were turned off, while genes involved in the stress response for apoptosis were turned on.

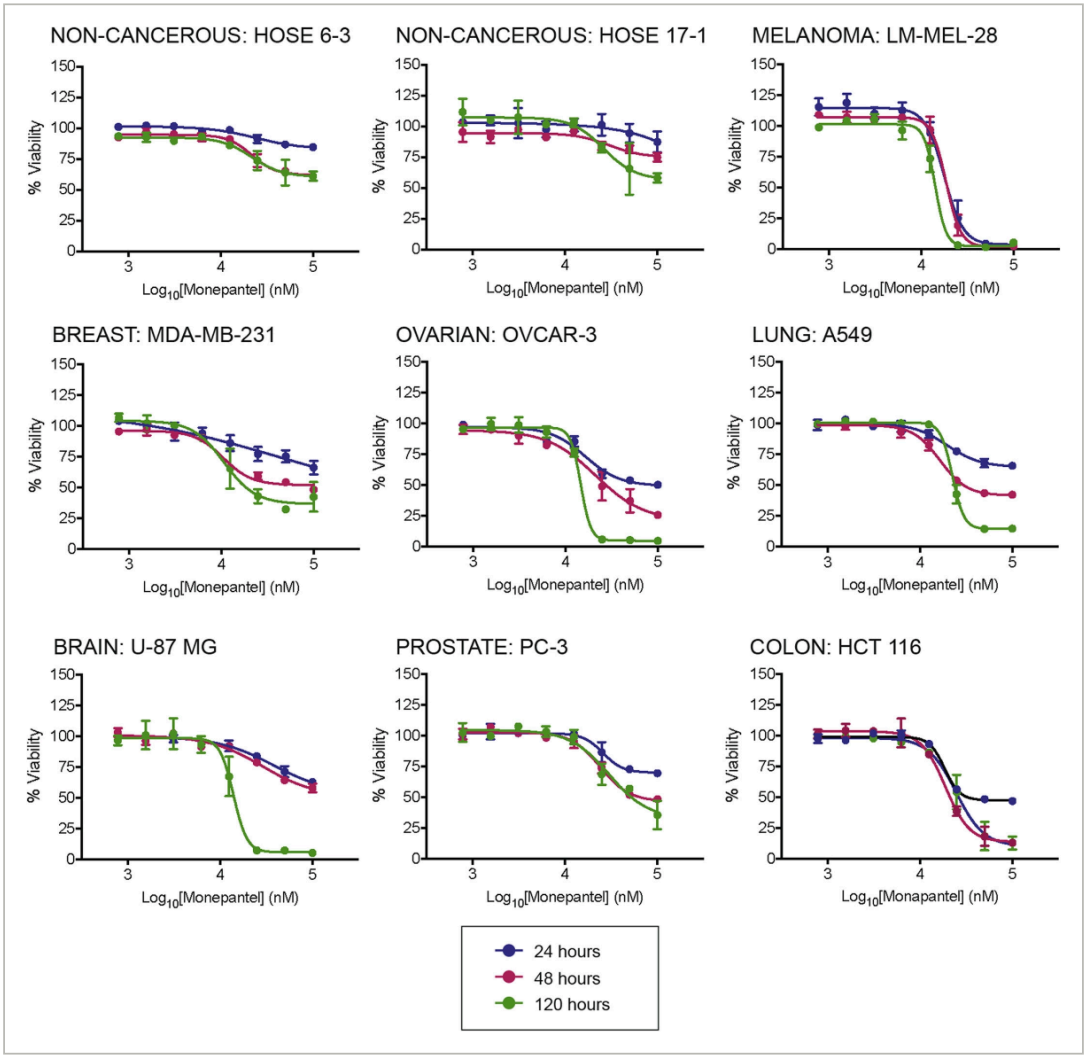
As these outcomes are associated with mTOR signalling, cell cycle and autophagy, researchers have now identified the likely MPL anti-cancer trigger mechanism.

The data provide compelling evidence that MPL prevents cell divisions and induces apoptosis through cell stressors as the mechanism of action and how it fights cancer.

The published paper is entitled: "*Induction of endoplasmic reticulum stress is associated with the anti-tumour activity of monepantel (MPL) across several cancers types*". Access to the published manuscript can be found at: https://onlinelibrary.wiley.com/doi/10.1002/cam4.6021

Monepantel has activity across a wide range of cancer cell lines and types

The below chart shows the effect of MPL on cell viability, which is the ability of cells to stay alive and function properly.



This announcement is authorised by the Board.

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About PharmAust Limited:

PharmAust Limited is listed on the Australian Securities Exchange (code: PAA) and the Frankfurt Stock Exchange (code: ECQ). PAA is a clinical-stage company developing therapeutics for both humans and animals. The company specialises in repurposing marketed drugs lowering the risks and costs of development. These efforts are supported by PAA's subsidiary, Epichem, a highly successful contract medicinal chemistry company which generated $3.4 million in sales of goods & services in FY 2022.

PAA's lead drug candidate is monepantel (MPL), a novel, potent and safe inhibitor of the mTOR pathway – a pathway having key influences in cancer growth and neurodegenerative diseases. MPL has been evaluated in Phase 1 clinical trials in humans and Phase 2 clinical trials in dogs. MPL treatment was well-tolerated in humans, demonstrating preliminary evidence of anticancer activity. MPL demonstrated objective anticancer activity in dogs. PAA is uniquely positioned to commercialise MPL for treatment of human and veterinary cancers as well as neurodegenerative disease as it advances a reformulated version of this drug through Phase 1 and 2 clinical trials.