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ASIA EDITION

Australia injects $21 M into first oral therapeutic for restoring gut lymphatic function

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Monash University has announced the award of support from the Advanced Research Projects Agency for Health

Australia's Monash University has announced the award of support from the Advanced Research Projects Agency for Health (ARPA-H) to advance an oral prodrug of celecoxib – using the Glyph^{TM} platform, designed to deliver therapy directly to the gut lymphatics – aiming to improve lymphatic function and advance the treatment of metabolic disease and pancreatic cancer by directly addressing local inflammation and lymphatic dysfunction.

The project is being led by the Monash Institute of Pharmaceutical Sciences (MIPS) in partnership with long term collaborator, Seaport Therapeutics, and is being backed by up to AUD$21.5 million via the ARPA-H GLIDE (Groundbreaking Lymphatic Interventions and Drug Exploration) programme.

The grant will support the development of GlyphCele^{TM} or Cele-Pro^{TM}, an oral prodrug of the COX-2 inhibitor celecoxib, that uses the Glyph lymphatic-targeting platform, initially developed at MIPS and now exclusively licensed to Seaport. GlyphCele is specifically engineered to target and normalise dysfunction in the gut lymphatic system, which plays a central role in metabolic disease and pancreatic cancer.

In metabolic disease, lymphatic vessels that normally move dietary fats and immune signals out of the gut can lose their structure and begin leaking fluid into nearby abdominal fat, fueling inflammation, weight gain, and insulin resistance. Using the Glyph^{TM} platform, GlyphCele is designed to address this defect at its source by delivering therapy directly into the gut lymphatics.

If successful, it would be the first oral therapeutic restoring normal vessel function, reducing lymphatic leakage, and breaking the cycle that drives metabolic dysfunction. Preclinical studies published by the MIPS researchers in Nature Metabolism provided initial proof of concept that lymphatic targeted COX2 inhibition can correct this lymphatic damage, improve metabolic markers and reverse insulin resistance.

In pancreatic cancer, tumour associated lymphatics can allow inflammatory and tumor-promoting signals to spread into

surrounding tissues, supporting disease progression. By delivering GlyphCele directly into the lymphatic network that connects the gut and pancreas, the Glyph platform is intended to strengthen local anti-tumor activity and suppress metastasis.

There are currently no approved lymphatic-targeted oral medicines and no non-surgical method to normalise gastrointestinal lymphatic dysfunction.