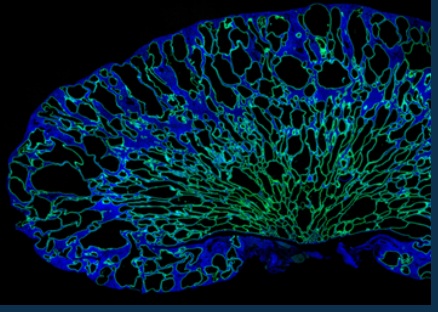

Mouse kidney with PKD
Image: Dr Allara Zylberberg

ADVANCING POLYCYSTIC KIDNEY DISEASE TREATMENTS: THE RISE OF XCYSTENCE BIO

SMALL MOLECULE THERAPEUTICS

Groundbreaking research into Polycystic Kidney Disease (PKD) —an inherited condition that often leads to renal failure and requires dialysis or transplant, has led to the creation of xCystence Bio, a new biotech spin-out from Monash University. This venture builds on discoveries made by researchers from the Monash Biomedicine Discovery Institute (BDI) and the Monash Institute of Pharmaceutical Sciences (MIPS), who identified a key cell signalling pathway driving the formation and growth of kidney cysts. Founders include BDI's **Prof Ian Smyth** and **Dr Denny Cottle**, along with **Prof Paul Stupple** and **Dr Yichao Zhao** from MIPS.

TIA's Pipeline Accelerator scheme played a pivotal role by providing access to the Australian Translational Medicinal Chemistry Facility and the Centre for Drug Candidate Optimisation for efficacy testing and drug interaction studies. This support enabled the team to translate their findings into targeted therapeutic candidates with the potential to slow or halt disease progression by advancing the project toward Phase I trials and supporting the development of a diversified portfolio of compounds.

Now backed by a $500,000 CUREator grant from the Medical Research Future Fund, a $1.1M NHMRC Ideas Grant and a $891,000 NHMRC Development Grant, xCystence Bio is working to develop new treatments for PKD. The company's mission is clear: to bring safe and effective therapies to patients and improve their quality of life.

With the additional support of the Phenomics Australia Monash Genome Modification Platform node, the team will be able to accelerate their therapeutic screening process. TIA's early support has been instrumental in helping the team move from proof-of-concept research to establishing a viable commercial venture with promising clinical potential.

> "The TIA Voucher Program was critical in facilitating the transition from biological discovery to drug development. It allowed us to collaborate with talented scientists expert in medicinal chemistry and compound profiling who have helped us to realise our translational aspirations."
> **Prof Ian Smyth**

Impact:

TRL 1 TRL 2 **TRL 3** **TRL 4** **TRL 5** TRL 6 TRL 7 TRL 8 TRL 9