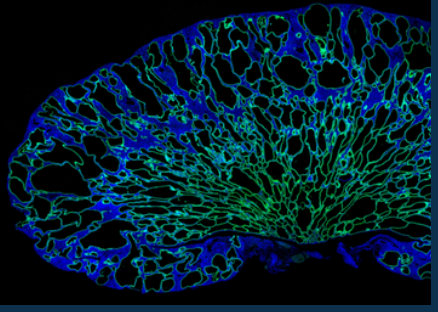

Mouse kidney with PKD
Image: Dr Allara Zylberberg

ADVANCING POLYCYSTIC KIDNEY DISEASE TREATMENTS: THE RISE OF XCYSTENCE BIO

Updated on 2nd April 2026

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.

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 team received an additional $250,000 in CUREator top-up funding, recognising the substantial progress made and further empowering their efforts to translate innovations into better health outcomes. xCystence Bio closed its pre-seed investment round in March 2026 backed by Monash Ventures, Breakthrough Victoria, Uniseed and BioCurate, enabling optimisation of the company's lead therapeutic programs and progression toward the clinic.

With the support of the Phenomics Australia Monash Genome Modification Platform node, made possible through an additional voucher from Phenomics Australia, the team will be able to accelerate their therapeutic screening process by studying pharmacodynamics in CRISPR-engineered mice. The Pipeline Accelerator'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