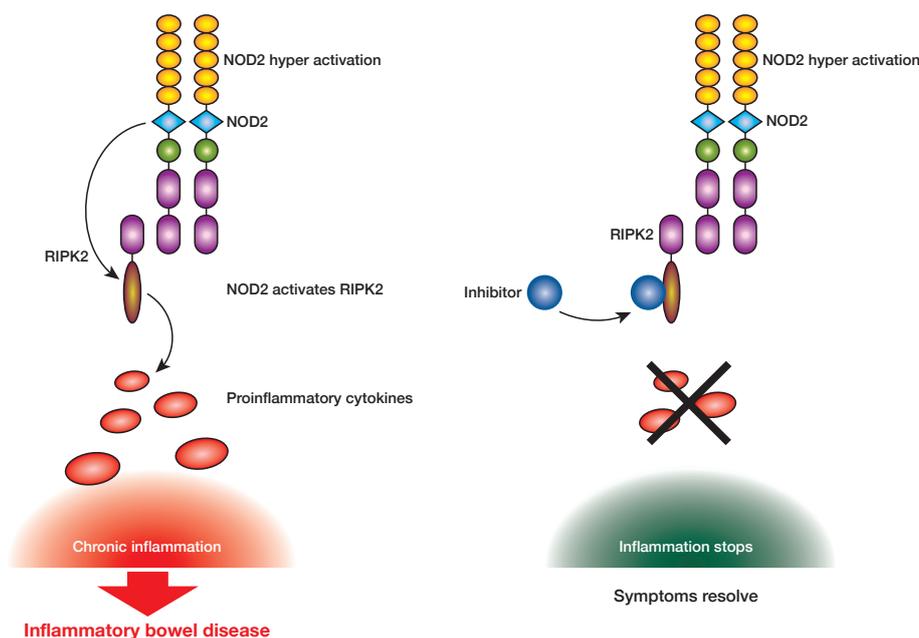


Intercepting inflammation with RIPK2 inhibitors

- ▶ RIPK2 is a key driver of inflammation.
- ▶ Potent and specific RIPK2 inhibitor developed.
- ▶ Established enzyme assays and models for *in vitro* and *in vivo* testing.

The opportunity

Receptor-interacting serine/threonine kinase 2 (RIPK2) signalling drives expression of proinflammatory cytokines and type I interferon. Hyperactivation of the NOD2:RIPK2 pathway is a key driver of inflammatory bowel disease (IBD) and RIPK2 inhibitors show efficacy in preclinical models of IBD. To date, no RIPK2-specific inhibitors have advanced to clinical trials, and as such, there is a first-in-class opportunity to address these significant unmet needs.



The technology

We have developed a small molecule inhibitor of RIPK2, WEHI-345, that has potent anti-RIPK2 activity, high specificity for RIPK2 and good *in vitro* and *in vivo* efficacy. WEHI-345 demonstrated bioavailability in mice and there was no pathology or changes to white blood cells observed at the maximum tolerated dose.

Opportunities for partnership

We are seeking a co-development partner for our structure enabled drug discovery program to generate a potent, specific RIPK2 inhibitor.

We have:

- A lead compound, validated enzyme assays and comprehensive *in vitro* and *in vivo* models for inhibitor validation.
- Granted patent for the RIPK2 inhibition as a method of treatment for inflammatory conditions, Crohn's disease and other diseases.
- Comprehensive expertise in lead optimisation including medicinal chemistry and structural biology.

We are seeking investment to complete:

- Lead optimisation and medicinal chemistry.
- Preclinical validation.

Scientific team

Associate Professor Guillaume Lessene

Leader, New Medicines and Advanced Technologies Theme

Dr Ueli Nachbur

Senior postdoctoral fellow, Cell Signalling and Cell Death division

At the Walter and Eliza Hall Institute our multidisciplinary research teams are focused on solving complex biological questions by integrating expertise in bioinformatics, clinical translation, computational biology, epidemiology, genomics, medicinal chemistry, proteomics, structural biology and systems biology. Our innovative science expands and improves the understanding of human biology and enables the translation of this new knowledge into novel therapies that benefit patients worldwide.

Project pipeline - available for partnering

	Project	Mode of action*	Target validation	Hit discovery	Lead generation	Lead optimisation	Indication
Cancer	Targeting minor class splicing	Inhibitor					Mutant K-Ras, B-Raf tumours
	Targeting EBV malignancies	Inhibitor					Burkitt's lymphoma
	Treating drug resistant cancers	Inhibitor					Cancer
Immune health and infection	pDC therapy for lupus	Inhibitor					Systemic lupus erythematosus
	RIPK2: Intercepting Inflammation	Inhibitor					Inflammatory bowel disease
	Rethinking CD52	Biologic					Autoimmunity
	SOCS mimetic	Inhibitor					Inflammatory bowel disease
	A complete cure for HBV	Inhibitor					Hepatitis B
	Novel malaria vaccine	Vaccine					Malaria
	Toxoplasma vaccine	Vaccine					Animal health: Toxoplasmosis
	Precision prebiotics	Prebiotic					Inflammation
	Healthy development and ageing	Precision epigenetics	Inhibitor				
FSHD epigenetic therapy		Activator					Facioscapulohumeral dystrophy
Improving retinal detachment outcomes		Inhibitor					Ophthalmology

*Activator or Inhibitor refers to small molecule compounds

To discuss partnering opportunities, please contact **Dr Anne-Laure Puaux**, Head of Commercialisation, by email partnering@wehi.edu.au.