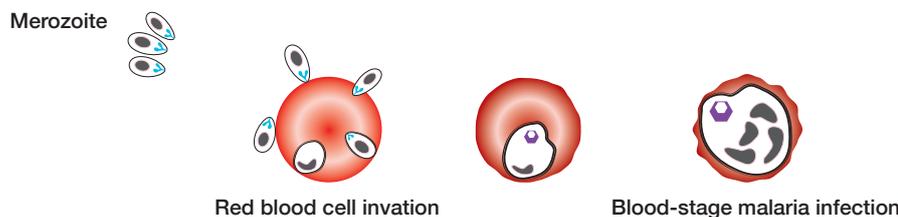


Novel malaria vaccine

- ▶ Malaria remains a leading cause of morbidity and mortality worldwide.
- ▶ Antimalarial resistance is a major problem and existing vaccines are inadequate.
- ▶ Novel vaccines targeting critical steps in multiple lifecycle stages have the greatest chance of success.

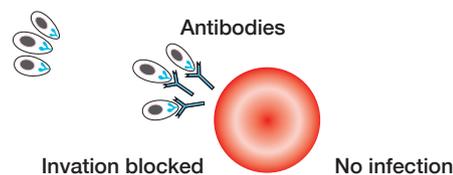
The opportunity

In the past decade, malaria disease caused more than four million deaths. The deadliest causative species, *Plasmodium falciparum*, displays resistance against frontline antimalarials and the current vaccine exhibits only limited efficacy. A vaccine that targets the symptomatic blood stage of infection is urgently required to augment transmission-blocking vaccines currently in development.



The technology

We have identified a critical protein complex required by the parasite to invade red blood cells. Antibodies targeting this complex block the interaction between the parasite and host red blood cells that is necessary for invasion of the cell. This prevents a blood-stage parasite infection and will form the basis of an effective next-generation malaria vaccine.



Opportunities for partnership

This is an opportunity to develop the first effective vaccine that protects against malaria.

We have:

- Deep knowledge and world-class expertise in malaria biology, expression systems to produce antigens and facilities to conduct infection and challenge studies.
- Identified antigens as lead vaccine candidates that can completely block *P. falciparum* invasion *in vivo* and are identifying antigen combinations to block multiple stages of the parasite lifecycle.
- Granted patents identifying blood-stage antigens that block parasite invasion and protect against malaria infection.

We are seeking:

- A partner to co-develop our novel vaccine and investment in development to advance the project towards clinical trials.
- Platform technologies or adjuvants to further enhance antibody production.

Scientific team

Professor Alan F Cowman

Deputy director, Scientific Strategy, and laboratory head, Infectious Disease and Immune Defence division

Dr Julie Healer

Insectary and project manager, Infectious Disease and Immune Defence 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.