Burnet Vaccine Initiative

Burnet
reach for the many

Equitable access to quality, affordable and effective vaccines

The Burnet Vaccine Initiative (BVI) brings together Burnet Institute's leading experts in virology, immunology, parasitology, and vaccine design to develop novel and rationally designed vaccine candidates.

There is an urgent need to tackle the world's most devastating pathogens with novel antigens and strategies to achieve high lasting vaccine protection. The international effort to develop novel mRNA vaccine technology during the COVID-19 pandemic now provides a generational opportunity to find game-changing, high-efficacy vaccines for other diseases.

By understanding the pathogenesis of and immunity to infectious diseases and the types of immune responses that provide protection, Burnet's researchers have developed novel vaccine antigens for:

- SARS-CoV-2, MERS and other coronaviruses
- Hepatitis C
- Malaria (*p. falciparum* and *p. vivax*)

Professor Heidi Drummer and Dr Andy Poumbourios head the Viral Entry and Vaccines laboratory, one of the groups developing a pipeline of novel mRNA vaccines against infectious diseases.

Why work with BVI?

BVi Burnet Vaccine Initiative

We have the experience and partnerships to progress your vaccine candidate to the next stage.

- Longstanding expertise in vaccine development
- Over 420 peer reviewed research articles and extensive patent portfolio of technologies
- State-of-the-art equipment and PC2/3 laboratories
- Links in low- and middle-income countries for clinical and implementation research support
- Access to ISO 9001 Quality Management System with full documentation and SOPs

Our partners

Moderna
mRNA Core
GenScript Biotech
Monash Institute of Pharmaceutical Sciences
The University of Melbourne
ARTES Biotechnology

Technology portfolio

Pan sarbecovirus vaccine

- stabilised spike protein in adjuvant candidate for broad immunity against sarbecoviruses
- trimerisation domain free and transferable to mRNA and other platforms

MERS

- stabilised spike protein in adjuvant candidate for protection against MERS
- trimerisation domain free and transferrable to mRNA and other platforms

Hepatitis C

- recombinant protein in adjuvant that generates broad immunity against HCV variants
- transferrable to mRNA and viral vector platforms
- virus-like nanoparticle in adjuvant that generates broad immunity against HCV variants

Malaria (*p. falciparum* and *p. vivax*)

- monovalent, bivalent, multivalent, and fusion formulations of mRNA, saRNA, circRNA formulations; recombinant protein and VLP (falciparum) formulations

Track record

Poumbourios et al (2023) *Enhanced stability of the SARS CoV-2 spike glycoprotein following modification of an alanine cavity in the protein core.* DOI: 10.1371/journal.ppat.1010981

Donnison et al (2022) *A pan-genotype hepatitis C virus viral vector vaccine generates T-cells and neutralizing antibodies in mice.* DOI: 10.1002/hep.32470

McGregor et al (2022) *Virus-Like Particles Containing the E2 Core Domain of Hepatitis C Virus Generate Broadly Neutralizing Antibodies in Guinea Pigs.* DOI: 10.1128/JVI.01675-21

Kurtovic et al (2004) *Antibody mechanisms of protection against malaria in RTS,S-vaccinated children: a post-hoc serological analysis of phase 2 trial.* DOI: 10.1016/S2666-5247(24)00130-7

Work with us

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