

# Immunology and immunotherapies, including antibodies and nanobodies

The enormous specificity and diversity of the immune system is integral for the control of infection and cancer, but also contributes to the development of allergies and autoimmune disease. Consequently, the capacity to either generate targeted immune responses or to manipulate the quality of immune responses offers significant opportunities to impact human health.

The generation of monoclonal antibodies as therapeutics had early success for the management of COVID-19 and now widely used and investigated for the treatment of Ebola, RSV, HIV and other viruses. Nanobodies could also potentially play a role given advantages related to size and complexity. Modification of immune function may also play a role, as highlighted by the tremendous success of targeting so called “checkpoint inhibitors” resulting in restoration of immunity and management of cancer.

The University of Melbourne has significant research strengths in fundamental immunology and is seeking to enhance its capacity in translational immunology to build programs of research aimed at identifying novel immune targets, developing innovative immunotherapeutics or immunoregulation strategies, including antibodies or nanobodies with direct clinical application, for the treatment of pathogens of pandemic potential.

The University of Melbourne is seeking new researchers at academic Level C-D who can join in and benefit from the developing critical mass of research talent and facilities for immunotherapy research. We are seeking researchers with demonstrated expertise to build an internationally competitive research program in:

- Basic and translational immunology
- Therapeutic antibody technology, including monoclonal antibodies or nanobodies
- Expertise in immune exhaustion and reversal

