UQ Bioproduction Capabilities

- Antibody engineering and discovery
- Nucleic acid production (mRNA, pDNA, dsRNA)
- Recombinant protein production
- Vaccines, diagnostics and biotherapeutics
Bioproduction at UQ

Advanced manufacturing, new vaccine technologies and associated bioproduction has experienced unprecedented growth following the global pandemic, and delivered significant technological advancements and human health outcomes.

$30M+
Bioproduction Hub

Australia’s leading institution for research reputation¹ and commercialisation.

¹Nature Index Tables 2021

50+
Research specialists

The 2021 Australian biotechnology ecosystem is worth more than $8 billion in annual revenue¹. Demand within the biotech sector is set to continue with Governments and society looking for sustainable innovation that enables high quality research and delivers translatable outcomes. The pandemic has also highlighted the need to build the complete pipeline within Australia that leverages our world-leading research with a solid supply chain and sovereign manufacturing capabilities.

Competition for funding, skilled workforce and resources has created an opportunity for strong partnerships between academia, government organisations and industry. The University of Queensland’s bioproduction capabilities form a critical hub of highly skilled researchers, world-class infrastructure, technology development and expertise in developing scalable bioprocesses.

Internationally recognised, our bioproduction facilities have a proven track record supporting researchers from industry, academia and government both nationally and internationally, delivering over 500 projects annually across a broad spectrum of health and agricultural research applications. Successful projects include mammalian monoclonal antibodies, human and veterinary vaccines, biomaterials, biotherapeutics, diagnostics and enzymes though to stem cell therapies.

Together, our service-oriented facilities build value throughout the development pipeline, assisting researchers to bridge the gap between research and clinical development.

¹ Biotechnology in Australia, Strategic plan for health and medicine, Australian Government Department of Health
Advantages of partnering with UQ

Tailored, innovative solutions using latest protein technologies
More than 30 years of combined bioproduction experience
Largest number of protein expression platforms in Australia
Cost-effective services with industry competitive turnaround time
ISO 9001 Quality Management System
Expert partnership for state and national funding support programs
Internationally attractive government R&D tax incentives
UQ World-standard research reputation

Our services

**BASE**
- Messenger RNA (mRNA)
- mRNA sequence design
- Scaled mRNA manufacture
- Formulation (LNP)
- mRNA reagents (GFP etc.)
- Expression optimisation

**NBF**
- Phage display antibody discovery
- Antibody and protein engineering
- Molecular engineering
- Mammalian cell line development and clonal isolation
- Bioprocess design and scale-up
- Clinically-enabling Phase I protein production
- Analytics and characterisation

**PEF**
- Project consultation and design
- Protein production in bacteria, yeast, baculovirus-insect cell and mammalian cells
- Molecular engineering
- Expression optimisation
- Scale up expression
- Protein purification
- Analytics and characterisation
- Protein reagents
  (ie: Malaria and SARS-CoV-2 proteins)
Empowering researchers to develop industry-relevant bioprocesses that deliver impact in the community

This capability statement represents a snapshot of UQ’s bioproduction capabilities. We encourage you to visit our facility websites to learn more.

BASE Facility
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National Biologics Facility
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