

# ESR's facilities at the National Centre for Biosecurity and Infectious Disease (NCBID)

www.ncbid.govt.nz



## Background on NCBID

The National Centre for Biosecurity and Infectious Disease significantly increases New Zealand's capability to safeguard human and animal health and to protect the economy. It provides a centralised coordination and emergency response centre for disease outbreaks, biosecurity investigations and chemical and biological threats and events.

On a single site at Wallaceville, Upper Hutt, NCBID links:

- The Biosecurity New Zealand Investigation and Diagnostic Centre (previously referred to as the Ministry of Agriculture and Forestry's (MAF's) National Centre for Disease Investigation)
- New Environmental Science and Research (ESR) laboratories and staff
- AsureQuality facilities
- AgResearch's Infectious Disease diagnostic team

It clusters the largest concentration of bacteriologists, virologists and epidemiologists specialising in animal and human health in New Zealand.

The new centre also provides a unique co-location of diagnostic and epidemiological activities.

NCBID includes the only infectious disease laboratory facility in New Zealand that provides a PC3+ level of containment. The site also has other accredited containment labs, which meet international disease handling protocols and safety standards.



## ESR's Laboratories at NCBID Wallaceville

### Bacteriology

#### Enteric Reference Laboratory

- Provides national reference and surveillance laboratory services for human, animal, food and environmental enteric bacterial pathogens. These include *Salmonella*, *Shigella*, toxigenic *E. coli* (VTEC), *Yersinia*, *Vibria* and *Campylobacter*
- Detection of outbreak clusters using a combination of serology, phage typing and molecular methods (such as PCR and PFGE)

#### Leptospira Reference Laboratory

- Provides screening and confirmatory tests for common *Leptospira* serovars found in New Zealand (Leptospirosis is a bacterial disease that affects humans and animals)

### Molecular Biology

- This laboratory provides a shared space for virology and bacteriology routine diagnostic testing and research
- Latest molecular biology techniques and equipment are used for detection and typing of bacteria and viruses
- The epMotion 5075 enables high throughput sample processing, providing capacity for outbreak investigations
- New methods are continuing to be developed and implemented by researchers in zoonotic and human infectious diseases

### Virology

#### WHO National Influenza Centre

Virological and epidemiological surveillance of influenza and current circulating strains. (Vaccine recommendations)

#### Virus Identification Reference Laboratory

- WHO Reference Laboratory for Poliovirus and SARS
- National Reference Laboratory for typing of enteroviruses and adenoviruses
- Primary clinical diagnostic services for the lower North Island (Viral culture and PCR etc)

#### Arbovirus Laboratory

- Serological screening for exposure to Dengue Fever Virus, Ross River Virus and Barmah Forest Virus



### Capability

At NCBID, ESR contributes capability, expertise and skills in the areas of:

- Biosecurity and disease (investigating infectious disease threats, disease surveillance modelling and forecasting)
- Specialist laboratory services
- Counter-terrorism (identifying and investigating biological and chemical threats and microbial forensics)
- Enhanced training and skill development for the health sector

### Research

ESR is also undertaking research in key areas including disease modelling and forecasting, zoonoses (diseases that spread from animals to humans), biosecurity indicators and microbial and chemical threats.

### Microbial and Chemical Forensics

ESR, using Capability Funding from Vote Research, Science and Technology, has established microbial and chemical forensics capability through the Centre.

For further information, please contact:

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