

The New Zealand Reference Culture Collection, Medical Section

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WHAT WE ARE

The New Zealand Reference Culture Collection, Medical Section (NZRM, World Data Collection No. 457) is an important service collection for microbiologists in New Zealand, supplying the country's hospital and community laboratories and science workers in education, research, manufacturing and quality control laboratories.

The NZRM began life as a small collection of medical interest in 1955 at Wellington's National Health Institute. The Collection's first ampoules were prepared on a homemade freeze drier, which had a silica gel column with 30 ampoule attachments. The vacuum pump achieved a reasonable vacuum, but there was no centrifugation so the cell suspension usually ended up on the cotton wool plug! We still have ampoules made in those days, great care is taken when opening them, as many are still viable, especially the hardier enteric organisms.

The Institute moved in 1982 to a new purpose-built building in nearby Porirua and the Collection has grown steadily over the years to its present size of 4300 accessions.

The NZRM is funded principally by Government health agencies and supported by ESR, a Crown Research Institute, whose resources include specialist reference laboratories where the Collection is based. These laboratories have expertise in bacteriology and virology identification, and established alliances with other New Zealand reference laboratories assist us in maintaining our mycology and anaerobe accessions.

SERVICES

The majority of accessions are supplied as freeze-dried ampoules. Our current freeze-dryer is a Thermo Savant ModulyoD, which is based on the Edwards freeze-dryer, we used previously, and batch capability is 96 0.5ml ampoules.

A catalogue is issued which lists the bacteria, yeasts and fungi held; many of these are internationally used reference strains. The catalogue is available as a paper document and is also viewable on our website www.esr.cri.nz.

In addition to the supply of strains the NZRM provides an identification service using both phenotypic and molecular methods. Our 16S rRna gene sequencing of unusual isolates in recent years has identified several recently described genera and species of significance in human health. Examples are *Pandoraea* species (*pulmonicola*, *pnomenusa* and *sputorum*) and *Inquilinus limosus* from cystic fibrosis patients, and *Corynebacterium riegelii* and *C. coyleae* from blood cultures. New species such as these are added to the Collection as examples of New Zealand biodiversity.

SAFETY AND SECURITY

The NZRM holds cultures of Risk Group 1 and 2 only as our laboratories are approved to Physical Containment (PC) level 2, and the collection is stored in secure buildings.

To guard against loss due to the hazards of earthquakes (a real possibility in New Zealand!) and fire, safety stock of all accessions has been stored in a heat and shock-proof data safe in a separate building.

Cultures are supplied only to laboratories (not private addresses), to bona-fide approved requestors. Documentation, packing, and labelling used are in accordance with the IATA Dangerous Goods Regulations and shipping is by traceable courier.

REGULATORY CONTROLS

The advent of the Hazardous Substances and New Organisms (HSNO) Act in New Zealand in 1996 has encouraged the deposition of representative strains of indigenous species in the NZRM and other New Zealand Collections. The HSNO legislation controls the importation and holding of “new” organisms i.e. those not known to be present in the New Zealand environment, so it is important to be able to determine if a particular species is found here.

The NZRM has been designated as an approved “Containment Facility for Microorganisms” so we are able to hold Risk group 2 organisms, including new and genetically modified organisms. The approval is granted by the New Zealand authority responsible for biosecurity, the Ministry of Agriculture and Forestry (MAF).

CONCLUSION

The NZRM is a valuable reference collection for New Zealand scientific workers. Much knowledge and experience has been gained through achieving and maintaining compliance with legislative and biosecurity requirements. The difficulties now encountered by New Zealand workers wishing to import, transport, or work with, organisms have led to the increased importance of the Collection (and other New Zealand collections) as a source of strains, identification services, expert advice and assistance.