BRF Revised Murine Health Policy July 2012

Part A  Experimental Rodent Facility:

1. Lead organisations
   a. St. Vincent’s Health
   b. Royal Melbourne Hospital
   c. Austin Biomedical Alliance

2. Designated suppliers where rodents can be supplied unrestricted.
   ARC (WA)
   WEHI (Kew, Bundoora)
   IMVS (SA)
   Adelaide University (SA)
   TASq (rederived animals)
   Jackson Laboratory (Int)
   Charles River (Int)
   Taconic (Int)

Justification for entry to Experimental:
   a. Mice/rats are housed in micro-isolators or SPF.
   b. Health status is available and known at the time of purchase.
   c. Mice/rats are free from common murine infections or may be infected with non excluded diseases such as Norovirus and Helicobacter.

3. Quarantine
   a. Mice from designated suppliers do not need to go into quarantine.
   b. Mice from the Lead Organisations may be accommodated in experimental for the term of the project. Health reports must accompany animals and strict isolation procedures must be adhered to if they are known to be infected with non excluded diseases, to protect all animals in the facility.
   c. Overseas importation done through AQIS approved facility (eg Monash Animal Services, ARC [WA], TAS [Qld]).
   d. Jackson Labs, Charles River, and Taconic animals may be released to the experimental area if health status is confirmed and approved by AQIS
   e. All other suppliers will be treated as non-designated suppliers and will not be granted access to the BRF without rederivation

Part B  High Barrier Breeding Facility:

1. Lead organisations
   a. St. Vincent’s Health
   b. Royal Melbourne Hospital
   c. Austin Biomedical Alliance
   d. Any other external supplier/facility not on the designated list

All animals from Lead Facilities must be rederived into the facility via caesarean section or Embryo Transfer to maintain the BRF high barrier breeding facility health status.
Exclusions may apply if organisations can supply a relevant, recent and negative full
health testing panel prior to shipment. Historical reports may also be requested to confirm status.

Rederived animals will be tested for the common diseases at 5-6 weeks of age and once status is determined they will be released into the general breeding rooms.

2. Designated suppliers where rodents can be supplied unrestricted.
   ARC (WA)
   WEHI (Kew, Bundoora )
   TASq (rederived animals)
   Jackson Laboratory (Int)
   Charles River (Int)
   Taconic (Int)
   Other facilities such as Monash Animal Services, IMVS and Adelaide University will be considered.

Justification:
   a. Mice/rats are housed in micro-isolators or SPF.
   b. Health status is available and known at the time of purchase.
   c. Mice/rats are free from common murine infections including Norovirus, and Helicobacter.
   d. The facility manager is confident of the health status of the animals

3. Quarantine
   a. Mice from designated suppliers do not need to go into quarantine.
   b. Mice from a non-designated supplier will be quarantined and timed mated and rederived into the breeding facility.
   c. Overseas importation done through AQIS approved facility (eg Monash Animal Services, ARC [WA], TAS [Qld]) and rederived if health status is not confirmed.

   All other suppliers will be treated as non-designated and rederivation at an external facility such as TASq is mandatory for entry.

PART C – General

1. Monitoring animals
   a. Sentinel mice, in individually ventilated cages, require deliberate contamination by placing dirty bedding and nesting materials into their cages.
   NB: This method is not effective for all organisms of interest. Program should also include retired breeder as sentinels, or similar, for direct contact transmission organisms.
   b. Sentinel mice must be exposed to contaminated materials for at least 45 days to ensure optimum opportunity to develop antibodies to any infective agents.
   c. Immuno-competent mice are most sensitive indicators of bacteriological contamination.
   d. Immuno-deficient mice or young mice between 4 -8 weeks should be used for parasitological monitoring.
   e. Some facilities may choose to use a statistical sampling method with a given infection incidence for monitoring microisolators  (Lab Animal Vol 30, no 10)
**Mouse Organisms Excluded**

**Serology**
- Mouse hepatitis virus
- Rotavirus
- Mouse Parvovirus
- Minute virus of mice
- Theiler's murine encephalitis virus
- Pneumonia virus of mice
- Sendai virus
- Mouse adenovirus Type 1 & 2
- Reovirus type 3
- Ectromelia virus
- Polyoma virus
- Murine Cytomegalovirus
- Hantaan virus
- Mouse thymic virus
- K virus
- Hantavirus
- Lymphocytic choriomeningitis virus
- Mycoplama pulmonis

**Bacteria**
- Cilia associated respiratory bacillis
- Clostridium piliformis
- Encephalitozoon cuniculi
- Simian Virus 5
- Salmonella
- Streptobacillus moniliformis
- Corynebacterium kutscheri
- Bordetella bronchiseptica
- Pseudomonas spp
*Helicobacter spp,
*Pasteurella pneumotropica
*Proteus
*Staphylococcus aureus
- Streptococcus pneumonia (alpha haem)
- Streptococcus spp (beta Haem)
- Klebsiella oxytoca
- Klebsiella pneumonias

**Parasites**
- Ectoparasites
- Endoparasites – Helminths pinworms/tapeworms and pathogenic gut protozoa i.e. Klebsiella & Citrobacter rodentium

*Helicobacter spp, Pasteurella pneumotropica, Proteus, Staphylococcus and Murine norovirus may be tolerated in the BRF Experimental Facility and must be assessed for approval by the Manager. For all other diseases not represented on the list will be at the Managers and Management Committee’s discretion.

Diagnosis of Helicobacter spp needs to be done by PCR.
Rat Organisms Excluded
Parvovirus
Rat corona virus/Sialodacryoadenitis
Toolan’s virus
Pneumonia virus of mice
Sendai virus
Kilham’s rat virus
Cilia associated respiratory bacillis
Clostridium piliformis
Encephalitozoon cuniculi
Simian Virus 5
Theilers’ murine encephalitis virus
Lymphocytic choriomeningitis virus
Mycoplama pulmonis
Reovirus Type 3
Sendai virus

Bacteria
Cilia associated respiratory bacillis
Clostridium piliformis
Salmonella
Streptobacillus moniliformis
Corynebacterium kutscheri
Bordetella bronchiseptica
Pseudomonas spp
*Helicobacter spp,
*Pasteurella pneumotropica
*Proteus
*Staphylococcus aureus
Streptococcus pneumonia (alpha haem)
Streptococcus spp (beta Haem)
Klebsiella oxytoca
Klebsiella pneumoniae

Parasites
Ectoparasites
Endoparasites – Helminths pinworms/tapeworms and pathogenic gut protozoa i.e. Klebsiella & Citrobacter rodentium

*Helicobacter spp, Pasteurella pneumotropica, Proteus, Staphylococcus and Murine norovirus may be tolerated in the BRF Experimental Facility and must be assessed for approval by the Manager. For all other diseases not represented on the list will be at the Managers and Management Committee’s discretion.
Diagnosis of Helicobacter spp needs to be done by PCR.
Monitoring schedule in Experimental
In all three Institutions, the animal facility will be regarded as two units, breeding and experimental as these have different levels of access.
The following viruses most likely to be contaminants should be monitored every 6 months.

Mice:
Mouse hepatitis virus (MHV)
Rotavirus (EDIM)
Minute virus of mice (MVM)
Parvovirus (MPV)
Norovirus (MNV)

Rats:
Rat coronaviruses (RCV/SDAV)
Parvovirus (PARV)
Pneumonia virus of mice (and rats) (PVM)
Mycoplasma pulmonis (PULM)

Monitoring schedule for High Barrier Breeding
Rodents to be transferred into a participating animal facility will be sourced from the breeding area of that facility thus this is the critical monitoring unit.

Minimum testing frequency
- Viral 6 monthly (see experimental schedule)
- Full serology panel annually (including the ‘common’ viruses)
- Bacteriology annual with full panel
- Endoparasites by direct smear and perianal tape test quarterly
- Ectoparasites by direct examination using hand lens test quarterly
- Rodents demonstrating clinical signs of disease and/or infection or anything suspicious must be investigated further once detected

Rederived animals will be tested for the common diseases at 5-6 weeks of age and once status is determined they will be released into the general breeding rooms. Some additional testing may be required under specific circumstances.

For experimental colonies
a. The status of these colonies is an important indicator of the presence of unwanted micro-organisms. These mice are held for shorter periods (generally less than six months) and no significant breeding occurs in the experimental colonies.

b. However it should be noted that these colonies are at greater risk of “breakdown”, and facilities will vary in the amount of resources they can allocate to screening of this area. Latitude is given to the individual facility to decide on a monitoring regimen, as mice will not be sent from here into the breeding facility of participating institutions.

Mice from experimental colonies cannot be transferred into the breeding facility under any circumstances until they have been rederived.
2. Testing methods
As per Standard Operating Procedures of participating organisations

3. Reporting
If a positive test result is found, communicate the preliminary results to other lead organisations.
Take action appropriate to the seriousness of the situation:
- Test other sentinels or the same sentinel from +ve box, (or stored duplicate sample) according to institute SOPs
- If negative then no further action, other than initial notification.
- If positive:
  a. Confirm diagnosis by expansive testing
  b. Implement containment procedures for the room.
  c. Follow institutional policy for infection control in consultation with research staff.

4. Screening of Biological materials
Mouse biological product should be screened for a range of murine pathogens before introduction into the experimental mouse areas.
The following products should be screened:
- Cell lines
- Transplantable tumours
- Viral stocks
- Serum
- Ascitic fluid

Materials must be free from:
- Murine Mycoplasma spp
- Parvovirus MMV and MPV
- MHV
- LDV transplantable tumours
- Polyoma virus
- LCMV

Only materials determined to be free of transmissible agents by MAP or PCR testing are to be used in the experimental areas of the animal facility.

REVIEW

Internally the Bioresource Manager in consultation with the Management Committee will review this document annually.
REFERENCES


