

# **MURINE HEALTH POLICY**

## **SHARED BIORESOURCES GROUP**

### **1) Lead organisations**

- a) St. Vincent's Health
- b) Royal Melbourne Hospital
- c) Austin Biomedical Alliance

### **2) Principles**

Mice are able to be imported from one complying animal facility from the lead organizations and another provided that;

- a) Mice are housed in micro-isolators.
- b) Agreed health status.
- c) Agreed sampling procedures.
- d) Agreed Standard Operating Procedures (SOPs) for box handling
- e) Agreed standards for biologically derived agents used in the complying facility.
- f) Health reports available online.

### **3) Designated suppliers:**

**Mice from designated suppliers are allowed unrestricted entry to facilities.**

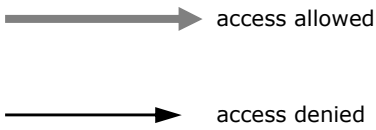
ARC (WA)  
WEHI (Kew, Bundoora)  
Monash (Clean facility)  
IMVS (SA)  
Jackson Laboratory  
Charles River  
Taconic

NB The fewer suppliers used, the less the risk of barrier breach.

### **4) Quarantine**

- a) Mice from designated suppliers do not need to go into quarantine.
- b) Mice from a non-designated supplier will be quarantined. They will be housed in a micro-isolator in a separate site and screened before entry into the experimental colony
- c) Overseas importation done through AQIS approved facility (Monash Animal Services).
- d) AQIS may not require mice from approved suppliers (Jackson Labs, Charles River, Taconic) to go into post arrival quarantine if import conditions regarding Hantaan virus have been met. In those cases the mice could go straight into the experimental or breeding room.  
All other suppliers will be treated as non-designated suppliers.

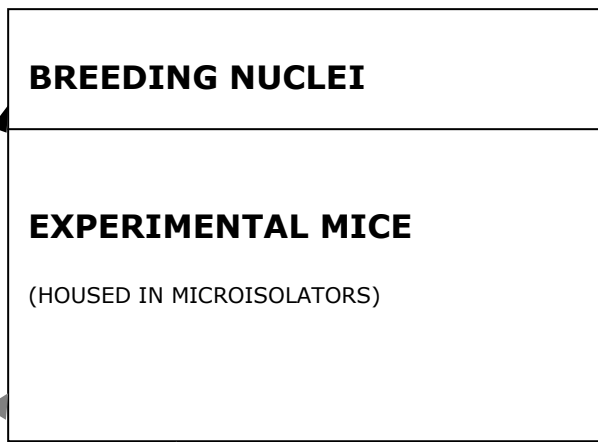
# HEALTH POLICY ACCESS FLOW CHART



**COMMERCIAL SUPPLIERS**  
with complying health standards

ARC  
SPF KEW (WEHI)  
BUNDOORA (WEHI)  
MONASH high barrier only

(JAX, Charles River, Taconic,  
subject to AQIS requirements)



**Participating Research Institutes**

Microisolator caging with:

- agreed SOPs for cage handling (laminar flow/class 11)
- agreed excluded agents \*
- agreed sampling-procedures

Subject to microisolator based modified testing/quarantine protocol

Experimental mice not housed in microisolators

Known "DIRTY MICE"

\* All viruses, mycoplasmas, helicobacters, citrobacter rodentium, salmonella, clostridium piliforme, streptobacillus moniliformis, Corynebacterium kutscheri, Bordetella, ecto & endo parasites

## 5) Monitoring animals

All health monitoring protocols must be approved by the Health Standards Bio21 group.

- a) Samples should be split or mice retained in case an unexpected result needs verification
- b) Immuno-deficient mice or young mice between 4 -8 weeks should be used for parasitological monitoring.
- c) Sentinel mice in individually ventilated cages requires deliberate contamination by placing dirty bedding and nesting materials into their cages NB This method is not effective for all organisms of interest.
- d) Sentinel mice must be exposed to contaminated materials for at least 45 days to ensure optimum opportunity to develop antibodies to any infective agents
- e) Immuno-incompetent mice are most sensitive indicators of bacteriological contamination
- f) Some facilities may choose to use a statistical sampling method with a given infection incidence for monitoring microisolators (Lab Animal Vol30, no 10)

## 6) Organisms excluded

MHV  
Rotavirus  
Murine Cytomegalovirus  
Theilers' encephalitis virus  
Parvovirus (minute virus and parvovirus)  
Pneumonia virus of mice  
Sendai virus  
Mouse adenovirus  
Reovirus type 3  
Ectromelia virus  
Polyoma virus  
Hantaan virus  
Lymphocytic choriomeningitis virus  
*Encephalitozoon cuniculi*  
CAR bacillus  
*Clostridium piliforme*  
*Salmonella*  
*Streptobacillus moniliformis*  
*Corynebacterium kutscheri*  
Ectoparasites  
Endoparasites – pinworms and pathogenic gut protozoa

*Helicobacter spp* and *Pasteurella pneumotropica* can be tolerated as a major supplier has these organisms.

It is important for Royal Melbourne Hospital to remain free of helicobacter.

Diagnosis of *Helicobacter spp* needs to be done by PCR.

Each animal facility will monitor the presence of these organisms and St. Vincent's Health will aim to eliminate these organisms from the breeding colonies.

## **7) Monitoring schedule**

- a) In all three Institutions, the animal facility will be regarded as two units, breeding and experimental as these have different levels of access.
- b) Viruses most likely to be problematic should be monitored more frequently.
  - i) Mouse hepatitis virus (MHV)
  - ii) Rotavirus
  - iii) Minute virus of mice (MVM)
  - iv) Parvovirus (MPV)
  - v) Norovirus (may be added to the list)

## **8) For breeding colonies**

- a) Mice 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.
- b) Minimum testing frequency
  - i) Viral 4 times/ year for MHV, Rota, MVM and MPV
  - ii) Full serology panel 1/year (including the 'common' viruses)
  - iii) Bacteriology 1/year – mice demonstrating clinical signs of disease and/or infection with excluded organisms need to be investigated when detected
  - iv) Endoparasites by direct smear and perianal tape test 4/year (immuno-deficient mice recommended for testing, if available in colony)
  - v) Ectoparasites by direct examination using hand lens 4/year

## **9) For experimental colonies**

- a) The status of these colonies is important as an 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. St Vincent's has the following in place:  
Full panel – virus, bacteriology, endoparasites and ectoparasites annually or more frequently if clinical signs are suggestive of unwanted pathogens.  
Common viral pathogens, MHV, Rota, MVM and MPV will be monitored at additional time points during the year. Sentinels will be used in the same way as breeding colonies.
- c) Mice from experimental colonies must not go into breeding colonies unless rederived.

## **10) Testing methods**

As per Standard Operating Procedures of participating organisations

## **11) Reporting**

- a) All results entered on mouse strain data base website
- b) If a positive test result is found, communicate the preliminary results to other lead organizations. Take action appropriate to the seriousness of the situation.
  - i) Test other sentinels or the same sentinel from +ve box, (or stored duplicate sample) according to SOPs
  - ii) If negative then no further action, other than notification, required
  - iii) If positive

- (1) Confirm diagnosis by expansive testing
- (2) Include information on health monitoring data base
- (3) Implement containment procedures for the room.
- (4) Follow institutional policy for break in consultation with research staff.

## **12) 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:

- a) Cell lines
- b) Transplantable tumours
- c) Viral stocks
- d) Serum
- e) 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**

The Health Monitoring Policy Group will review standard operating procedures of participating animal facilities to ensure compliance with this policy.

The Health Monitoring Policy Group will review this policy annually and report to the Bio 21 Oversight Committee.

## REFERENCES

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