1. PURPOSE

The intent of this Standard Operating Procedure (SOP) is to describe the quarantine program for mice coming from non-commercial or non-approved sources (see definition in section 3) in order to prevent the introduction of rodent pathogens into established colonies.

2. RESPONSIBILITY

Animal care staff, import coordinator, veterinary care staff, principal investigator (PI) and their staff.

3. DEFINITION

Non-approved sources are all rodent suppliers other than Charles River Laboratories (excluding National Cancer Institute), Harlan, Taconic, and the production division of Jackson Labs.

4. PROCEDURES

4.1. The PI requesting the animals must submit a completed Import Request form.

4.2. The sending institution provides the veterinarian (or designate) with the following information:

- 4.2.1. A recent (<3 months) health report of the colony.

- 4.2.2. A Mouse Health Information form containing:
  - 4.2.2.1. A summary of health issues for the last 12 months, for the whole facility
  - 4.2.2.2. A description of the husbandry practices (sterile or non-sterile, micro-isolation, use of change station, etc.)
  - 4.2.2.3. A description of the health monitoring program

4.3. Veterinarian’s (or designate’s) responsibilities:

- 4.3.1. Evaluate the information provided by the source institution.

- 4.3.2. If necessary, consult with the PI to determine whether the mice will be received for quarantine.

- 4.3.3. Notify the PI and import coordinator of the decision on quarantine housing for each quarantine request.

- 4.3.4. Notify the import coordinator of any special screening procedures for groups of animals (e.g. special instructions if mice are immunodeficient).

- 4.3.5. Determine whether or not tests are necessary and indicate which tests are required. This is determined according to the health status of the sending facility and the requirements of the destination facility.

4.4. Quarantine Access:

- 4.4.1. Only essential personnel have access to quarantine (i.e., the import coordinator, facility manager, animal care staff or veterinary care staff).

- 4.4.2. If research personnel require access to the quarantine room, contact the import coordinator for permission and instructions on entering the room. A quarantine room orientation must be scheduled.

- 4.4.3. Do not transfer mice out of quarantine before the end of the designated quarantine period unless the transfer was approved by a veterinarian or their designate.
4.5. Breeding Mice in Quarantine:

4.5.1. Breeding in quarantine is encouraged since pups can be good indicators of potential health problems and are valuable for testing.

4.5.2. Allow limited breeding during quarantine only if it has been approved by a veterinarian and/or the import coordinator.

4.5.3. If space is limited, the import coordinator notifies researchers that they may need to limit breeding to the most essential lines and needs. The facility manager is also notified of any space requirements.

4.5.4. If barrier colony animals must be bred to a quarantined group, allow the barrier mice into the quarantine facility. Do not allow those mice to return to the barrier colony until the quarantine period is complete.

4.6. Husbandry:

4.6.1. Operate quarantine facilities under biosafety level 2, bioexclusion level 3 practices.

4.7. Observation and Special Care:

4.7.1. Observe animals at least once daily.

4.7.2. Report animals with clinical signs to the veterinary care staff.

4.7.3. If deaths occur, store the carcasses in the designated refrigerator and inform veterinary care staff and import coordinator.

4.7.4. For unexplained morbidity/mortality perform gross necropsy and collect tissues for histopathology of necessary.

4.8. Testing:

4.8.1. Infectious Disease PCR Testing:

4.8.1.1. Samples are obtained independently for each shipment being quarantined.

4.8.1.2. If more than one distinct strain is included in one shipment, each strain is tested independently.

4.8.1.3. Samples from up to 10 cages may be pooled into a single sample, provided all 10 cages are from the same shipment or distinct strain.

4.8.1.4. After a minimum acclimation period of 72 hours, collect the following samples:

- Feces: collect fresh fecal pellets with no bedding material. Up to 10 fecal pellets from multiple animals can be pooled together into one sample.
- Fur/Skin swab from at least two sites (head between ears, back/rump, inguinal area, perianal area). Pool up to 10 swabs per single sample. One swab can be used for multiple animals.
- Oral swab: Pool up to 10 swabs per single sample. One swab can be used for multiple animals.


4.8.2. Once the samples have been collected as in section 4.8.1, consider treating the quarantined animals preventatively for external and internal parasites in the following manner:

4.8.2.1. Treat 50% of the animals with ivermectin 0.008 mg/mL in the drinking water (i.e., mix 1 volume of ivermectin sheep drench 0.08% with 99 volumes of water).

4.8.2.2. If after 3 days no adverse reaction has been seen with the first half under treatment, place the second half of the animals on ivermectin medicated water as described above.

4.8.2.3. Maintain treatment for 7 days.

4.8.2.4. Discontinue treatment for the next 7 days.
4.8.2.5. If parasitology test results are positive, 5 to 7 treatment cycles may be necessary as determined by the veterinarian or designate.

4.9. Outcome and follow up:

4.9.1. Ensure a veterinarian (or designate) interprets the results.

4.9.2. Proceed with one of the following options depending upon the results for each group of quarantine animals and the instructions from a veterinarian (or designate):

4.9.2.1. Transfer the animals to an animal facility with the corresponding health status (refer to the excluded pathogens lists).

4.9.2.2. Begin a rederivation process.

4.9.2.3. Hold the animals in quarantine for an extended period, if space is available in consultation with the facility supervisor.

4.9.2.4. Euthanize the animals.

### SOP REVISION HISTORY

<table>
<thead>
<tr>
<th>DATE OF MODIFICATION</th>
<th>DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2016</td>
<td>Modification to items 4.3.5, 4.5.3. Added Mouse Health Information form (annex).</td>
</tr>
</tbody>
</table>
**MOUSE HEALTH INFORMATION FORM**

**SENDING INSTITUTION:**

**DATE:**

**SENDING INVESTIGATOR:**

**MCGILL INVESTIGATOR:**

### ANIMAL INFORMATION

**IMMUNE STATUS**

- [ ] Normal
- [ ] Deficient
- [ ] Unknown

**BIOLOGICALS**

- Have biologicals (e.g. tumors, cell lines, serum, embryonic cells & other substances) been used in these animals?
  - [ ] Yes
  - [ ] No
  - If so, have the biologicals been screened for human and rodent pathogens (please provide documentation)? If no, please explain:

**HUSBANDRY**

- Do these animals have any special housing or husbandry needs (special diet, medicated water for gene expression, autoclaved caging, etc)?
  - [ ] Yes
  - [ ] No
  - Please explain:

**OTHER**

- Have the animals been inoculated and/or exposed to infectious agents, recombinant DNA, carcinogens, toxic chemicals, and/or radionucleotides?
  - [ ] Yes
  - [ ] No
  - Please explain:

### FACILITY DESCRIPTION

- **Facility where mice are housed:**
- **Housing Room:**

  **Type of Facility:**
  - [ ] Barrier
  - [ ] Conventional
  - [ ] Other:

  **Caging System:**
  - [ ] Static - Open
  - [ ] Static Microisolator
  - [ ] Ventilation Racks
  - [ ] Other:

  **Cage Changing:**
  - [ ] With cage change stations
  - [ ] Without cage change stations

  **Personal Protective Equipment:**
  - [ ] Gown (Disposable)
  - [ ] Scrubs
  - [ ] Shoe Covers
  - [ ] Mask
  - [ ] Gown (Room dedicated)
  - [ ] Gloves
  - [ ] Hair Bonnet
  - [ ] None
  - [ ] Other:

### SENTINEL PROGRAM

**Health status determined by:**

- [ ] Sentinel rodents housed on dirty bedding from other animals in room
- [ ] Animals sampled directly
- [ ] Investigators provide animals to be sampled

**Monitoring frequency:**

- [ ] Annually
- [ ] Quarterly
- [ ] Semi-Annually
- [ ] Monthly

**Testing laboratory:**
**PATHOGENS**

Are there any pathogens or health problems in this strain?  
☐ Yes  ☐ No

Are there any pathogens or health problems with other rodents in this room?  
☐ Yes  ☐ No

Are there any pathogens or health problems in other rodent rooms in this facility?  
☐ Yes  ☐ No

If yes, please explain:

Please select those agents found present within the last 12 months in the facility housing the animals for export:

<table>
<thead>
<tr>
<th>VIRUSES:</th>
<th>BACTERIA/Fungi:</th>
<th>PARASITES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Ectromelia virus (ECTRO)</td>
<td>☐ <em>Bordetella bronchiseptica</em></td>
<td>☐ Aspiculuris tetraptera</td>
</tr>
<tr>
<td>☐ Epizootic diarrhea of infant mice (EDIM)</td>
<td>☐ Cilia associated respiratory bacillus (CARB)</td>
<td>☐ Syphacia obvelata</td>
</tr>
<tr>
<td>☐ Lymphohorionmengitis virus (LCMV)</td>
<td>☐ <em>Citrobacter rodentium</em></td>
<td>☐ Mycoptes musculinus</td>
</tr>
<tr>
<td>☐ Mouse adenovirus (1 and 2)</td>
<td>☐ <em>Clostridium piliforme</em> (Tyzzer’s)</td>
<td>☐ Myobia musculi</td>
</tr>
<tr>
<td>☐ Mouse cytomegalovirus (MCMV)</td>
<td>☐ <em>Corynebacterium kutscheri</em></td>
<td>☐ Radfordia affinis</td>
</tr>
<tr>
<td>☐ Mouse hepatitis virus (MHV)</td>
<td>☐ <em>Helicobacter biliis</em></td>
<td>☐ Encephalitozoon cuniculi (ECUN)</td>
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<tr>
<td>☐ Mouse norovirus (MNV)</td>
<td>☐ <em>Helicobacter hepaticus</em></td>
<td></td>
</tr>
<tr>
<td>☐ Parvoviruses (MPV1, MPV2, MPV3, MVM, NS-1)</td>
<td>☐ <em>Helicobacter spp</em></td>
<td></td>
</tr>
<tr>
<td>☐ Pneumonia virus of mice (PVM)</td>
<td>☐ <em>Klebsiella spp</em></td>
<td></td>
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<tr>
<td>☐ Polyoma virus (POLY)</td>
<td>☐ <em>Mycoplasma pulmonis</em> (MYP)</td>
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<tr>
<td>☐ Reovirus (REO-3)</td>
<td>☐ <em>Pasteurella pneumotropica</em></td>
<td></td>
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<tr>
<td>☐ Sendai virus</td>
<td>☐ <em>Pneumocystis carinii</em> (immunodeficient mice)</td>
<td></td>
</tr>
<tr>
<td>☐ Theiler’s murine encephalomyelitis virus (TMEV or GD VII)</td>
<td>☐ <em>Pseudomonas aeruginosa</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ <em>Salmonella spp.</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ <em>Streptobacillus moniliformis</em></td>
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</tr>
<tr>
<td></td>
<td>☐ <em>Streptococcus pneumoniae</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ <em>Streptococcus spp.</em> (A,B,C)</td>
<td></td>
</tr>
</tbody>
</table>

Veterinarian or designate:

_________________________  ________________________  _______________________
(signature)  (print)  (date)

Please send this completed form and recent health reports (< 3 months) by fax 514-398-7283 or e-mail import.cmarc@mcgill.ca