

SOP: **LARC-02**

Title: **Rodent Sentinel Program**

SOP Last Revision Date:
03MAY10

PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to describe the rodent sentinel program. This SOP applies to animals housed at the Laboratory Animal Research Core's animal facilities on the campus of the University of Missouri-Kansas City.

POLICY

It is LARC policy to meet or exceed all federal, state, local regulations and institutional policies/procedures as they apply to the use of animals in research. Personnel must attend any applicable training in animal care and use, occupational health and safety, equipment operation, and Standard Operating Procedures prior to performing activities outlined in this SOP or work under the direct supervision of a trained LARC staff member.

REFERENCES

- A. Laboratory Animal Research Core Personnel
- B. *The Guide for Care and Use of Laboratory Animals "The Guide"*
- C. *RADIL Specimen Preparation Guidelines for Submission of Samples*
- D. RADIL = Research Animal Diagnostic Laboratory-University of Missouri-Columbia

PROCEDURES

A. Procurement

- a. **Mice** – 28 day old female CD-1 mice are used.
- b. **Rats** – 28 day old female Sprague-Dawley rats are used.
- c. All sentinels are purchased from approved vendors and before use are shown to be free of agents listed in the RADIL “Comprehensive Plus Profile” for mice/rats and “Helicobacter” by means of a Health Status Report accompanying the animals upon delivery.
- d. Sentinel animals may also undergo the sentinel program before use to verify health status.
- e. Animals are allowed to acclimate inside the Barrier for one week prior to beginning testing.

B. Background

- a. Sentinel animals are exposed to colony animals in ways that promote transmission of infectious and parasitic agents in order to evaluate the health status of animal colonies at UMKC.
- b. This is routinely accomplished by housing sentinel animals in separate cages from colony animals, but exposing them to bedding soiled by the animals whose health status is being assessed (colony) or in rare cases, housing the sentinel animals in the same cage as the colony animals. After an appropriate period of exposure to develop infection and/or serologic response (10 weeks) the sentinel animals and/or samples are submitted for laboratory diagnosis to detect the presence of pathogens.
- c. Sometimes sentinels are not necessary as some colony animals are not housed for longer than 12 weeks.

C. Procedure

- a. Two sentinel animals are housed per sentinel cage (cages are to be clearly identified as sentinels), on the same rack as the animals they represent. Each sentinel cage is established for a specific group of colony cages (up to 70 cages) and sampling is pooled on scheduled intervals.

i. Scheduled Intervals

1. **For colony animals housed on ventilated racks or any other type of rack/device, one row is to be sampled weekly (note: some rows may receive sampling more than once).**
- b. As colony cages are changed, the technician aliquots three heaping tablespoons (about 2 ounces) or a designated container containing about 2 ounces of soiled bedding from each colony cage scheduled for sampling that week into an empty clean cage containing **NO BEDDING**, but contains clean/fresh water, feed and a nestlet. This cage will act as the sentinel's new cage after sampling is complete that day.
 - c. ***NOTE: the sentinels new cage bedding will be 100% soiled bedding (includes fecal and some old nestlet. However, at times, you may have to add some clean bedding to ensure there is an adequate level for nesting.***
 - d. Bedding sampling devices (spoons, cups, etc.) are to be discarded between each sentinel cage.
 - e. At the end of the 10 week testing, the LARC Veterinarian Technician sends one sentinel animal from each sentinel cage to RADIL for the Comprehensive Plus Profile test. Additionally, to represent each sentinel cage, 10 fresh fecal samples for Helicobacter PCR testing are taken. One fecal sample comes from the sentinel cage while the other

samples come from random colony cages represented by that sentinel cage. All samples are placed in the same tube and sent to RADIL.

D. Documentation/Notification

a. All Staff:

- i. Sentinel sampling is to be recorded on sentinel cage cards. Row names (e.g. A, B, C etc.) for ventilated racks and sentinel week (e.g. week 1, 2, 3 etc.) for all other housing devices.

b. LARC Vet Tech or Designee:

- i. All Vet Tech specific procedures are to be recorded on the ARM Record. The LARC Vet Tech is to notify the LARC Manager and LARC Veterinarian promptly upon receiving sentinel results. The LARC Vet Tech (under the advice of the LARC Veterinarian after reviewing results) notifies all involved researchers as to sentinel results regardless if they are positive or negative for pathogens.
- ii. LARC Vet Tech (with permission from the LARC Veterinarian) notifies LARC Staff to euthanize all existing sentinels and immediately orders a new set of sentinels for the next round of testing.