

University of Notre Dame Institutional Animal Care and Use Committee
Policy for Health Monitoring of Rodent Colonies

Purpose

Research rodents are readily infected by a number of viruses, bacteria and parasites which may produce disease and /or significantly alter experimental data. To successfully prevent spread of such agents, it is important that the microbiologic status of rodents housed within research facilities be periodically evaluated.

Procedures

1. Groups of animals to be monitored include rodents in breeding colonies and those maintained as an intact group for a period of greater than six months. In addition, groups of animals arriving from other than approved commercial sources should be evaluated prior to release from quarantine, if their health status has not be adequately documented at the source. Animals from colonies with evidence of infection with MHV, LCMV, or Hantavirus will not be allowed into the facility. Such animals should be rederived by a third party prior to shipment to Notre Dame.
2. All rooms with mouse breeding colonies will be evaluated quarterly. All other eligible groups of animals will be evaluated twice annually. At least two animals will be evaluated for each time point per group.
3. Animals used in evaluations may include:
 - a. Sentinels purchased from an approved commercial vendor, and at least 8-10 weeks old but less than 6 months old. Either males or females may be used. Sentinels which are free of the agents being tested (per vendor assurance) should be used.
 - b. Culls from the group of interest; must have be at least 8-10 weeks old but less than 6 months old. Either males or females may be used.
 - c. Experimental animals- serum and samples for oxyurid evaluation can be used from non-cull colony animals at least 8-10 weeks old, but less than 6 months old. Either males or females may be used.
4. Test animals are exposed to the colony for 4-6 weeks in the following manner:
 - a. Placement of test animal's cage in room to be evaluated: The test cage should be placed as low as on the rack as possible, to maximize exposure, and no filters or solid bonnets should be on the cage.
 - b. Mixing of "soiled" bedding with test animals: A small amount (about ½ handful) of used bedding from the group(s) being evaluated is mixed with the clean bedding in the test cage when the test animals are first set up in the test cage, and at all subsequent cage changes.
5. Animals are evaluated as follows:
 - a. Preparation of serum samples for serology: Blood samples are obtained by one of the standard methods for that species as described in the FLSC standard operating procedure. If appropriate, animals should be anesthetized or sedated using one of the methods described in FLSC standard operating procedures.
 - b. Preparation of whole blood samples: Using the Opti-spot™ test strips, one drop of whole blood is placed on the test strip for submission. This can be obtained as a survival sample using FLSC approved blood sampling methods or as a terminal procedure.
 - c. Anal tape evaluations are performed by firmly pressing an approximately 2-inch length of transparent tape against the animal's perineum. The tape is then placed directly onto a glass microscope slide and evaluated microscopically for oxyurid ova.
 - d. Examination of cecal contents for adult oxyurids should be made on all mice euthanized as part of the health monitoring program. Following euthanasia, the cecal contents should be emptied into a Petri dish and several drops of saline or water added and stirred into the material. Adult oxyurids are approximately 1.3 to 6 mm in length. They can be visualized grossly or beneath a dissecting microscope. If the animal is to be euthanized at the conclusion of the evaluation, the abdominal cavity should be exposed and examined for any gross abnormalities. The presence of any abnormalities should be brought to the attention of the FLSC veterinary staff. If the animal is not to be euthanized, it can be returned to the colony.

- e. Evaluation for ectoparasites is performed by pressing a 2-inch length of transparent tape firmly onto the skin on the dorsal cervical region and examining it microscopically, on a glass slide, for ectoparasite ova or adults. Evaluation of animals culled from the colony will include examination of the cooled carcass (10 – 15 minutes after death). The carcass is placed in a Petri dish and the pelt examined under a dissecting scope for external parasites.
6. Serology samples are sent by overnight delivery to a commercial or academic lab approved by the FLSC Attending Veterinarian. The Core Panel should be requested for routine monitoring, while the Standard Panel should be requested for animals to be shipped to another institution.
7. Test results are maintained in the Serological Monitoring Log according to the FLSC SOP, “Preparation of Serum Samples for Serology.” A copy of the results should be forwarded to the Attending Veterinarian. Abnormal or suspicious results will be handled appropriately on a case-by-case basis.