Name: Health Monitoring of Rodent Colonies **Policy # IACUC 123**

Effective Date: 3/2013 **Page 1 of 4**

GENERAL

Purpose: A number of viruses, bacteria and parasites, which may produce disease and /or significantly alter experimental data, can readily infect research rodents. In order to, successfully, prevent spread of such agents; it is important that the microbiologic status of rodents housed within research facilities be periodically evaluated.

Administration: The Institutional Animal Care and Use Committee (IACUC) is responsible for the review and revision of this policy.

Policy: To maintain the health integrity of the rodent colonies so researchers using rodents have the best possible outcomes and results are not influenced by an underlying infection.

PROCEDURE

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 been 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 re-derived (*a process where ova from infected mice are removed and implanted into healthy mice and the healthy mice carry the embryos to term*) prior to shipment to HackensackUMC. No animals may be shipped until the Clinical Veterinarian and Animal Facility Manager approve the shipment.

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. Sentinel animals 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 be at least 8-10 weeks old, but less than 6 months old. Either males or females may be used and cannot be immune deficient strains.
C. Experimental animal 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 on the rack as possible, to maximize exposure, and no filters or solid lids should be on the cage unless housing system requires they be on in order to contain the animals.
   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 If appropriate, animals should be anesthetized or sedated using one of the methods described in DBR standard operating procedures.
   B. 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.
   C. Examination of cecal contents for adult oxyurids should be made on select 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.

D. 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.

E. 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 DBR Facility Manager and Clinical Veterinarian (if someone other than the Clinical Veterinarian is performing the examination). Personnel performing the examination must be trained and approved by the Clinical Veterinarian to perform such tasks. If the animal is not to be euthanized, it can be returned to the colony. For rodents in barrier-sustained colonies, the rodents should be kept in a laminar flow hood.

6. Serum samples are sent by overnight delivery to a commercial lab approved by the DBR Clincial Veterinarian. The Rodent Standard Panel should be requested for routine monitoring, while a more comprehensive or a specific infectious agent panel can be requested, if necessary. See Table 1 for infectious agents tested.

7. Test results are maintained in the Serological Monitoring Log according to the DBR SOP, “Preparation of Serum Samples for Serology.” Abnormal or suspicious results will be handled appropriately on a case-by-case basis.

Laboratory Animal Diagnostic Services

Table 1

Infectious Agents–Rodent

Cilia-Associated Respiratory Bacillus (CARB)
Clostridium piliforme (Tyzzer's)
Convict Creek Virus (CCV)
Ectromelia Virus (Ectro)
Encephalitozoon cuniculi (E. cun.)
Epizootic Diarrhea of Infant Mice (EDIM)
Epstein-Barr Related Virus (EBV)
GDVII
GPig CMV
H. bilis
H. hepaticus
H. rodentium
H.typhlonius
Hantaan Virus
Helicobacter spp
K Virus (Mouse Pnemonitis Virus)
Kilham Rat Virus (KRV)
Lymphocytic Choriomeningitis Virus (LCMV)
Mouse Adenovirus (M.Ad-1)
Mouse Adenovirus (M.Ad2)
Mouse Hepatitis Virus (MHV)
Mouse Minute Virus (MMV)
Mouse Parvovirus (MPV)
Mouse Reovirus
Mouse Reovirus Type 3 (Reo3)
Mouse Thymic Virus (MTV)
Murine Cytomegalovirus (MCMV)
Murine norovirus (MNV)
Mycoplasma arthritidis (M.arth)
Mycoplasma pulmonis (M.pul)
Parvovirus
Pneumonia Virus or Mice (PVM)
Polyoma Virus
Puumula (European hantavirus)
Rat Coronavirus (RCV/SDAV)
Rat Coronavirus/Sialodacroadenitis Virus (RCV/SDAV)
Rat Cytomegalovirus (RCMV)
Reovirus (Reo) (Reo 1, 2, 3)
Respiratory Synctial Virus (RSV)
Rotavirus
Sendai Virus (Sendai)
Seoul Virus (Hantavirus of wild rats)
Simian Paramyxovirus Type 5 (SV5)
Theiler's Mouse Encephalomyelitis Virus (TMEV/GDVII)
Toolan's H-1 Virus
Treponema cuniculi (T. cun)