

COMPARATIVE MEDICINE  
LABORATORY ANIMAL FACILITIES

STANDARD OPERATING PROCEDURE  
for  
ANIMAL HEALTH MONITORING PROGRAM  
CONVENTIONAL FACILITY

1. Purpose:

The purpose of this Standard Operating Procedure (SOP) is to establish a mechanism to screen species housed in the LAF for bacterial and viral murine pathogens, and endo- and ectoparasites. This SOP specifically refers to mice, rats, and hamsters. The procedures outlined below will occur twice a year. A comprehensive examination will take place alternating with a basic screening. Research animals from approved vendors which are housed in the LAF for 6 weeks or less may be excluded from the program.

2. Scope:

This procedure applies to all veterinary technicians involved in the sentinel program.

3. Procedure:

- a. Process incoming sentinels as per SOP 2.D.8: "Receipt and Quarantine of Sentinel Animals".
- b. Expose sentinel animals to resident animal holding rooms for 4-6 weeks:
  - i. Place a spoonful of dirty bedding from each animal cage into a clean sentinel cage, at the time of each cage change. No more than 10 spoonfuls per sentinel cage should be added.
  - ii. Rotate dirty bedding to different sentinels each week, so each sentinel is exposed to as many animals as possible.
  - iii. For animals housed on wire bottom cages, remove feces from tray and place in sentinel cages.
  - iv. Never remove a sentinel from one room to the next.
  - v. Provide sentinels with clean food, water, and water bottles weekly.
- c. Sacrifice sentinels after 4-6 weeks:
  - i. Animals should be transported to the necropsy room in their original cages with microisolator tops. Animals should stay single housed for transport. Do not regroup animals together in cages.
  - ii. Euthanize rodents with CO<sub>2</sub> or pentobarbital.
  - iii. Collect blood via cardiac puncture and process for serology as per SOP 2.B.6 "Processing Rodent Serology".
  - iv. Scotch tape the perianal region and the hair between the shoulder blades to look for pinworms and furmites.
  - v. Collect fecal samples from sentinel cages and perform fecal flotations to look for pinworms. Fecal samples from within the same room may be pooled.
  - vi. Collect mesenteric lymph nodes from rats and mice and store at -70°C. Lymph nodes may be discarded once serology test results come back if all results are negative.
  - vii. Examine cecal contents for pinworms.

- viii. Note any abnormality on gross post mortem, save carcass, and report to veterinarian.
- d. Send serum for serological testing:
  - i. A comprehensive panel (Bioreliance Level II Profile) will be done once a year, and will include the following tests:
    - 1. Rats: CAR Bacillus, KRV (Kilham rat virus), H-1 Virus, Mycoplasma pulmonis, Rat parvovirus, PVM (Pneumonia virus of mice), SDA (Sialodacryoadenitis virus), Sendai virus, LCM (Lymphocytic choriomeningitis virus), and Reovirus.
    - 2. Mice: MVM (Minute virus of mice), MHV (Mouse hepatitis virus), Mycoplasma pulmonis, MPV (Mouse parvovirus), PVM, Sendai virus, GD-VII (Encephalomyelitis virus), EDIM (Epizootic diarrhea of infant mice), LCM, CAR Bacillus, Ectromelia virus, Mad-FL and Mad-87 (Mouse adenovirus), MCMV (Mouse cytomegalovirus), Polyoma virus, and Reovirus.
    - 3. Hamsters: LCM, PVM, Reovirus, Sendai virus, and SV5.
  - ii. A basic panel (Bioreliance Level I Profile) will be done once a year to include the following pathogens:
    - 1. Rats: CAR Bacillus, H-1, KRV, M. pulmonis, Rat parvovirus, PVM, SDA, Sendai.
    - 2. Mice: MVM, MHV, M. pulmonis, MPV, PVM, Sendai, GD-VII, EDIM.
    - 3. Hamsters: Same as the comprehensive panel above.
- e. Health Reports:
  - i. Report results by facility location and room number.
  - ii. Submit final report to veterinarian.
  - iii. Interpretation of results will be made by the veterinarian, and may require further testing.
  - iv. The veterinarian will notify the Principal Investigators of the results of their animals.
  - v. File a copy of the lab results with the Sentinel Testing Report.
    - 1. Results are filed by room number and building and stored in BEB room 116, in a labeled filing cabinet drawer.
    - 2. Records are retained for 5 years.
  - vi. Update sentinel tracking excel program on the S Drive, available on all CMLAF computers.
- 4. Summary:
 

Biannual screening for murine pathogens is required to ensure research animals are free of disease that could interfere with the research results. In addition to the testing protocol outlined here, animals that develop health problems throughout the year are examined, and post-mortems performed to ensure sporadic outbreaks of disease have not occurred.