



OFFICE OF LABORATORY ANIMAL CARE

Working Instructions

WIN Number:	112	Rodent Health Surveillance Program (Sentinel Program)	Revision #:	0
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PROCEDURE

All work instructions must be demonstrated by the trainer and performed by the trainee.

1. Sentinels are obtained based on the information below:
 - a. Strains:
 - Mice - female CD1 or other strain as determined by the veterinarian(s) according to the strain or lines sensitivity to developing disease.
 - Rats - female Sprague Dawley or other strain as determined by the veterinarian(s) according to their susceptibility to disease.
 - b. Age:
 - Sentinel mice are ordered at 4-7 weeks of age and should be 6-7 weeks of age when first placed into the housing room they will be monitoring.
2. Housing:
 - a. There should be at least two (2) animals per cage.
 - A cage card with a "Sentinel" sticker notation is placed on the cage.
 - The sentinel cage should be placed in the lower corner of the rack.
 - One (1) cage will monitor no more than eighty (80) cages.
 - One sentinel per side of an IVC rack
 - One sentinel per static rack
3. Cage cards will be labeled with the following information:
 - a. Location (including room and rack number)
 - b. Date of acquisition/set-up
 - c. Sentinel Sticker

4. Husbandry:

- a. Sentinels will receive the same standard food, water, environmental enrichment and daily health checks as the other rodents in the facility. Including extra enrichment if single housed.

5. Exposure:

- a. Collect a scoop of feces laden bedding from EACH cage on the rack and place it in a clean empty cage
 - The scoop is standard and is provided by OLAC.
- b. If sentinel animals are not present in the sentinel cage, continue to collect dirty bedding as directed above, unless directed otherwise by facility supervisor(s) or veterinarian(s) and place it in the lower corner of the rack.

6. Testing Schedule:

- a. Sentinels will be tested on a semiannual (every 6 months) basis except for Helicobacter/Norovirus free rooms, and the high-level barrier.
 - The Helicobacter/Norovirus free rooms will be tested every three (3) months by doing PCR on feces for both agents. No blood will be collected at this collection time.
- b. Sentinels are euthanized as the standard blood collection and two (2) sets of diagnostic samples will be taken via intracardiac puncture.
 - One set of samples will be sent to the diagnostic lab.
 - One set will be saved on campus as a backup in case of unforeseen loss of the sent sample or need for retesting. These samples will be discarded following confirmation of results.

7. Serology:

- a. For all sentinel mice, blood is collected following euthanasia by transcardiac puncture.
 - For survival bleeds: blood is collected from the facial vein. This will be for specific animal testing.
- b. Dried blood spot or similar low-volume blood sampling is used for serology testing.
- c. Once a year, a **comprehensive** serology panel is performed.
 - During the other testing period, the **prevalent** panel is performed.

List of infectious agents tested during serology quarterly testing:

	Mice	Rats
Comprehensive serology panel (once yearly)	Polyomavirus Pneumonia virus of mice (PVM) Orthoreovirus (REO) Murine Norovirus (MNV) Mouse T lymphotropic Virus (MTLV) Sendai virus Mouse parvovirus (MPV) Mouse cytomegalovirus (MCMV) Mouse adenovirus-2 (MAV-2) Mouse adenovirus-1 (MAV-1) Minute virus of mice (MVM) Lymphocytic choriomeningitis virus (LCMV)	Hantaan virus Kilham's Rat Virus (KRV) Lymphocytic choriomeningitis virus (LCMV) Mouse adenovirus-1 (MAV-1) Mouse adenovirus-2 (MAV-2) Orthoreovirus (REO) Parvovirus (Parvovirus) Pneumonia virus of mice (PVM) Rat minute virus (RMV) Rat parvovirus (RPV-1) Sendai virus (SENDAI) Sialodacryoadenitis virus, Rat coronavirus (SDAV/RCV)

	Group A rotavirus (EDIM) Ectromelia (ECTRO) Mouse hepatitis virus (MHV) Theilovirus (RTV) CAR Bacillus Mycoplasma pulmonis	Theilovirus (RTV) Toolan's H-1 (H-1) CAR bacillus Mycoplasma pulmonis
Prevalent serology panel (other testing period(s))	Group A rotavirus (EDIM) Mouse hepatitis virus (MHV) Mouse parvovirus (MPV) Murine Norovirus (MNV) Pneumonia virus of mice (PVM) Theilovirus (RTV)	Kilham's Rat Virus (KRV) Parvovirus Pneumonia virus of mice (PVM) Rat minute virus (RMV) Rat parvovirus (RPV-1) Sendai virus (SENDAI) Sialodacryoadenitis virus, Rat coronavirus (SDAV/RCV) Theilovirus (RTV) Toolan's H-1 (H-1) CAR bacillus Mycoplasma pulmonis Pneumocystis carinii (P. carinii)

8. Parasitology:

a. Fecal PCR is used for pinworm testing.

- Pooled samples from multiple cages on the same side of the rack may be used for testing or you can sample only the sentinel animals.
- Whenever possible fresh fecal pellets should be collected. **Note:** No more than six (6) cages per sample.

b. A pelt swab PCR is used to test for fur mites.

- Pooled samples from multiple cages on the same side of the rack may be used or samples can be collected from the sentinel animals only. **Note:** No more than six (6) cages per sample.

9. Sample shipment and processing

a. The samples collected for serology and PCR will be shipped to a contracted diagnostic laboratory for testing (e.g. Charles River Laboratories).

- All samples will be shipped at room temperature via an approved courier service. (e.g. FedEx) unless otherwise directed by the diagnostic laboratory.
- Submission form CRL: <https://www.criver.com/products-services/research-models-services/animal-health-surveillance/sample-submission-and-shipping-information?region=3601>

10. Health Status Reports:

- A health report will be generated detailing the results for each testing cycle and sent via email to vetstaff@berkeley.edu.
- The testing reports are reviewed by a veterinarian/QA/QC for health status concerns, a veterinarian will direct further testing or isolation and will contact the facility supervisor and PIs involved for further discussion and mitigation.
- In the event there is an outbreak of an excluded agent a veterinarian(s) will determine room containment procedures, mitigation plans and follow-up testing as necessary.
- Results are saved to Shared Drive > Rodent Health Surveillance Program > Sentinel results organized > Helicobacter MNV results. Each document title should be "testing year, testing period, sentinel results"

- e. QA/QC enters results into the sentinel health report spreadsheet found on the shared drive.
- f. After each testing quarter OLAC IT is assigned to uploading the newest results on the OLAC website under 'PI Resources'

REFERENCE DOCUMENTS

REVISION HISTORY			
REVISION NUMBER	AUTHOR(S)	EFFECTIVE DATE	REVISION(S)