



MMRRC-UNC Animal Health Program Description

The MMRRC at UNC is committed to maintaining high quality standards in animal care by the implementation of our animal health program. We monitor the health of our animals via routine and extensive testing for excluded agents. Rederivation of all lines prevents the entry of infectious agents. The state of the art IVC caging and strict adherence to rigorous sterile technique prevents the transmission of agents between cages. The MMRRC at UNC understand that knowing testing methods and their frequency is just as important as the actual health status. The MMRRC at UNC aims to communicate the details of our animal health program clearly, so our customers can have confidence in the health status of the mice they receive. The MMRRC at UNC has 16+ years experience in producing vendor quality animals and our animals are considered to be such by many institutions nationwide.

All animals are sent to Charles River Diagnostic Laboratory for health testing. Charles River Diagnostic Laboratory is located in Wilmington, MA (www.criver.com). Serology is tested via Multiplex Fluorescent Immunoassay (MFI) and Immunofluorescent Assay (IFA). Helicobacter species are tested for via PCR on fecal/cecum samples. Microbiological tests are performed on fecal/oral swabs. Pelts, fecal/cecal samples are examined for parasites. The MMRRC at UNC health testing is consistent with Federation of European Laboratory Animal Science Associations (FELASA) guidelines. www.felasa.eu Additional testing can be arranged. Please contact mmrrc_health@med.unc.edu for more information and price quotes. All animals sent to Charles River Diagnostic Laboratory are shipped via Validated Courier (www.validatedcourier.com) or (www.worldcourier.com) with a dedicated van (to/from the airport).

Health reports are available to all customers as PDF's and are updated as soon as new results are available. They can be sent via email. Health report documents are the summary of the results of all animals tested within a certain area. For all resuscitated litter orders, the Production Facility Health Report and the Embryo Transfer Room Health Report are sent to customers. For all live mice orders, the Production Facility Health Report and the appropriate Strain Health Report are sent to customers.

Our Production Facility is not axenic, but possess a known flora. Mice are allowed to have the following agents:

- Altered Shaedler Flora
- Dimorphic Yeast
- Mold
- Aerobic Spore Forming Bacteria
- Anaerobic Spore forming Bacteria
- Cocci Bacteria (excluding Staphylococcus aureus)

Our production facility is populated via rederivation only. Importation of animals from outside sources is not allowed.

The MMRRC at UNC Production Facility's health status is monitored via testing dirty bedding sentinels, surrogate mothers, retired breeders, cull animals and monthly microbiological testing. This is done to ensure the health status accurately represents the colony and the mice sent to customers. All animals tested are of sufficient age and exposure. The age of animals tested ranges from 4 weeks to retired breeders (typically 8-12 months old). This meets FELASA recommendations. A "test and cull" program to eliminate an opportunistic pathogen is initiated by a confirmation of a positive result for an excluded organism. If a positive result is found for viruses and pathogenic agents, rederivation will be used to re-populate the entire animal room.

Dirty Bedding Sentinels

Our dirty bedding sentinels are Swiss Webster (Taconic) mice bred in the production facility. Every 5 generations, Swiss Webster stock is rederived via embryos from Taconic stock animals. Swiss Webster mice were selected due to their availability, their ability to seroconvert to a wide variety of viral pathogens and their dissimilar coat color.

Sentinel animals are housed on the bottom row of all racks. Mice are placed at 3-4 weeks of age and tested at 15-16 weeks. They are exclusively exposed to dirty bedding from all cages on the same side of their rack (up to 68 cages). There are 2 mice per sentinel cage and 1 sentinel cage per each side of the rack. All dirty bedding sentinels are tested on a quarterly basis (February/May/August/November). Redundant sentinels are kept for confirmatory testing if necessary and euthanized when health report results are published. New 3 week-old dirty bedding sentinels are placed every 3 months.

Surrogate Mothers

All surrogate mothers from all successful embryo transfers are sent for health testing up to 2 weeks post weaning. All surrogates serve as contact sentinels for litters and are tested for all agents. Embryo transfers are done to fulfill resuscitated litter orders and to rederive all lines donated to the MMRRC. All rederivations of donated lines positive for Murine Parvo Virus (MPV) are tested for MPV via PCR of mesenteric lymph nodes/spleen in addition to the serological testing. All rederived litters are housed in a holding room (Embryo Transfer Room) until their health status can be confirmed. Once surrogate mothers are proven free of all agents, litters are moved to the production area. If the surrogate/foster mother is not available for testing, a wild type littermate will be sent instead.

Retired Breeders and Cull Animals

In addition to the dirty bedding sentinels sent, retired breeders and cull animals are used to monitor the health status of all strains offered as live mice. Animals from each strain are selected at random from all racks that the strain occupies. Retired breeders and cull animals are tested on a quarterly basis (February/May/August/November) along with the dirty bedding sentinels. All retired breeders and cull animals are tested for the full list of agents.

Revised 2/18/19