

Rodent Quarantine - Frequently Asked Questions

Why do rodents need to undergo a quarantine period?

Rodent quarantine is essential for protecting animal well-being and the scientific integrity of research at UIC. The veterinary staff has dedicated an extraordinary amount of time and resources to keep unwanted microbial agents out of the institution's rodent colonies. It is necessary that animals from sources other than approved vendors are confined and tested before entering the UIC rodent colony to prevent disease transmission.

Who is responsible for the cost of quarantine?

All of the expenses associated with quarantine are the responsibility of the investigator. These include diagnostic testing or re-derivation, fenbendazole diet (tiers 3A, 3B, and 4), and per diems. The cost associated with diagnostic testing is dependent upon the source of the animals and can be found in the Rodent Quarantine Classification and Minimum Requirements document.

What is the quarantine process?

Rodents known to harbor pathogens excluded at UIC are placed into Room 133. Animals in Room 133 are not allowed to enter the UIC rodent colony. These animals must undergo re-derivation and their offspring can enter the UIC rodent colony after appropriate testing. With the exception of approved vendors, all other incoming rodents are considered to be potentially contaminated and are placed in Room 185 for further testing. Specific testing regimens can be found in the Rodent Quarantine Classification and Minimum Requirements document. In general, animals are tested upon arrival for common laboratory rodent pathogens. Testing includes serology, parasitology, and fecal PCR for Mouse Norovirus and Helicobacter. If an animal tests positive for a pathogen, they are moved to Room 133 for re-derivation or acute use. Animals are re-tested 4 weeks later to identify animals that were contaminated during transit. If test results are negative, animals will be allowed to enter the animal housing rooms.

What is the re-derivation process?

Re-derivation is achieved by breeding limited pairs of contaminated mice or rats in Room 133 and then cross-fostering their offspring to clean surrogate mothers within 24 hours of birth. Cross-fostering of neonates eliminates the transfer of many mouse pathogens (i.e. Helicobacter, Mouse Norovirus) from dam to pups. The final pathogen status of the offspring is determined by serology and fecal PCR analysis at weaning, 8 weeks, and 12 weeks of age. Once the animals have tested negative for pathogens at 12 weeks, they are moved into the animal holding rooms and available for investigator use. The original breeding pair remains in the quarantine room. The re-derivation process takes at least 3-6 months. The cost of re-deriving one litter is \$700. This fee covers diagnostic testing and technician labor. The veterinary staff strongly recommends re-deriving two litters per strain unless there are special circumstances that can be discussed with the BRL veterinary staff.

Why does quarantine take such a long time?

The quarantine process involves testing for potential pathogens by serology, parasitology, and fecal PCR. The amount of testing is determined by the source of the animal. Results of serology and fecal PCR take approximately 2 weeks to receive and review. For animals in Tier 2, this results in a minimum quarantine period of 2 weeks. For animals in Tier 3A and 3B, mice that test negative on the initial testing for an excluded pathogen must be re-tested after 4 weeks. The veterinary staff waits until 4 weeks so that the mice will have enough time to develop antibodies to pathogens if they were contaminated during transit. This results in a minimum quarantine period of 6 weeks. The process of re-derivation for animals in Tier 4 takes approximately 3-6 months, which includes time for breeding and testing of the litters. These animals have additional diagnostic tests performed up until 12 weeks of age since they are at higher risk of contamination.

My rodents came from a “clean” source, why do you have to perform additional tests?

Rodent health monitoring programs vary widely from different sources and tests may not have screened for all the microbial agents excluded at UIC. Even if rodents test negative at their facility of origin, animals can become contaminated during shipment.

Why are animals given moxidectin?

Fur mites are a common pathogen of laboratory mice and are often missed during testing. Moxidectin is an anti-parasitic agent that is effective against fur mites. For quarantine tiers 2-4, one dose is placed topically on the back of the mouse after arrival in quarantine.

Why are animals given fenbendazole?

Pinworms are a common pathogen of laboratory mice and are often missed during testing. Fenbendazole is an anthelmintic agent that is effective against pinworms. For quarantine tiers 3 and 4, mice receive fenbendazole-amended diet for 6 weeks. The 6 week duration of this medication is necessary to eliminate all life stages of the pinworm.

How can I access my animals?

Access to rodents is restricted during the quarantine period to minimize disease transmission. Keys to the quarantine room are not distributed to investigators. If you need to access your animals, you must notify and discuss your needs with the veterinary staff. You may access the quarantine room only when escorted by the veterinary staff or the animal care supervisor from 8am - 4pm Monday through Friday and from 8am – 2pm on weekends and holidays.

What can you do with your animal while it is in quarantine?

Working with rodents is limited during the quarantine period because of our need to protect the UIC rodent colonies. Breeding can be performed during this time. Mice from other UIC housing facilities can be brought into quarantine for breeding purposes. Rodents that are housed in Room 185 can re-enter the UIC rodent colony after appropriate testing. Rodents housed in Room 133 cannot enter the UIC rodent colony. Please discuss any specific needs regarding rodent quarantine with the BRL veterinary staff.