Research Rodent Health Monitoring Program

The Laboratory Animal Facilities house rats and mice in excess of 50,000 on daily basis. These rodents are housed under SPF conditions in the Core Unit, in barriers, in experimental areas and in Quarantine areas.

SPF Techniques
The SPF rodents are housed in either static or individually ventilated (IVC) micro isolator cages on wood shavings. To prevent contaminations, clean cages and equipment are moved after washing from the cage wash areas in either covered transport carts (distant holding areas) or in open transport carts through the autoclave directly to the barrier areas. Animals in the barrier areas receive bedding, food, water, and cages that have been sterilized by autoclaving, γ-irradiation or filtration and UV-irradiation, respectively.

Personnel handling the rodents are required to wear gowns, bonnets, mouth masks, gloves and lab shoes before touching or handling the cages. IVCs are manipulated in laminar flow hoods for changing mice after gloved hands have been disinfected. During cage changes, the mice are transferred using silicone rubber-padded forceps, which have been disinfected with 70% alcohol.

Health monitoring
Health monitoring of rodents in the Core Unit is performed in 6-week intervals, in all other SPF areas it is performed quarterly. Some investigations are done annually. Health monitoring is carried out by using 6-8 week-old outbred Swiss (CD-1) sentinel mice.
Sentinel mice are kept in open cages or in Bioscreen cages of IVCs. They are placed in the rooms with the breeding colonies or research animals. Each investigation is carried out at a rate of two sentinels per room (up to 350 cages) or per IVC rack (approximately 80 cages). Aliquots of soiled bedding from each cage (max. of 70 cages at each cage change) are places in the sentinel cages at the time of routine cage changes (generally once weekly). After 10 to 12 weeks, the sentinel animals are euthanized and blood is collected for serology. A complete autopsy is performed and the organs are investigated following the FELASA recommendations for the health monitoring of rodent and rabbit colonies in breeding and experimental units (Nicklas et al., Lab Animals 36:20-42, 2002):
- Mice, rats and hamsters are currently tested for: MHV, MNV, EDIM, MPV, MMV, PVM, TMEV, Sendai V.
- Annual tests include: Mad-FL, Mad-K87, Reo-3, Mouse K V., Ectromelia V., LCV, MCV, LDV, Polyoma V., Mouse Thymic V., Hanta V., Helicobacter, and Streptobacillus moniliformis.
- Bacteriological and parasitological (endo- and ectoparasites) investigations and a complete autopsy for detection of pathological lesions is carried out at each examination.

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Jan 24th 2008