



Updated: 25 November 2024

Weizmann Institute of Science, Department of Veterinary Resources

Description of Animal Facilities

Type:	Closed barrier, specific pathogen-free (SPF) conditions
Entrance:	Access via personal card key system only Staff and researchers are not allowed to enter multiple facilities on the same day Animal's transfer between facilities requires authorization (according to health records)
Caging system:	Individually ventilated cages (micro-isolators)
Cage changing:	HEPA-filtered bio-safety cabinet (BSL-2)
Personal protectives:	Disposable masks, shoe covers, hair bonnets, gowns and gloves
Sterilization:	Water is acidified to pH 2.8-3.0 and autoclaved or filtered Food is irradiated Cages, bedding and enrichment items are autoclaved
Staff:	Full-time attending veterinarians Facility/room-dedicated animal caretakers Care is provided daily, including on weekends, holidays, and emergencies
Animal species:	Mice and rats of different strains; Animal Biosafety Level 2 (ABSL-2)
Animal sources:	Approved vendors (Harlan, Jackson Laboratory)

Sentinel program

Frequency:	Quarterly; according to FELASA recommendations
Strains:	C57BL/6J0laHsd (mouse), 1 sentinel cage (2 mice) per ~70 mice cages HsdOla:WI (rat), 1 sentinel cage (2 rats) per ~35 rats cages
Method:	Soiled bedding transfer to sentinels (>3 months' exposure); At every cage change sentinel cage receives soiled bedding transfer from a consecutive row of cages Additional experimental or colony animals are tested periodically
Testing lab:	Diagnostic Laboratory of the Department of Veterinary Resources at the Weizmann Institute of Science Positive serology results are tested by IDEXX BioAnalytics for verification

Quarantine program

Animals from sources other than approved vendors are quarantined or re-derived, housed with contact sentinels or foster/recipient mothers (CrI:CD1(ICR)) for 6 weeks and subjected to complete health screening prior to admission to any animal facility



Health screening

Euthanasia

Done using CO₂

Parasitology

Parasites are evaluated by binocular, microscopically and by tape test occasionally
In addition to sentinels, stock animals are also tested for fur mites

Bacteriology

Swabs taken from the Nasopharynx and the Cecum are cultured using traditional bacteriology methods and assisted by biochemical kits (API, bioMérieux)

Serology

Serum is evaluated using Antigen-coated plates purchased from Charles River Laboratories

Mice:

Basic panel (quarterly, 2 per half rack): EDIM, MHV, MPV, MVM, GDVII (TMEV)

Standard panel (quarterly, 1 per half rack): MNV, Mycoplasma pulmonis, PVM, Sendai

Extended panel (annually, per rack): CAR bacillus, Ectromelia, Encephalitozoon cuniculi, Hantaan, LCMV, MAV, MCMV, Polyoma, REO 3, Clostridium piliforme

Rats (quarterly, 1-2 sentinels per half rack): Mycoplasma pulmonis, PVM, Sendai, CAR bacillus, Encephalitozoon cuniculi, Hantaan, LCMV, MAV, REO 3, Clostridium piliforme, H-1, KRV, RPV, SDAV/RCV, RMV, RTV

PCR

Organism: Helicobacter spp.

Sample: fecal pellets (pooled up to 10)

References:

Helicobacter spp.: [Maggio-Price L.](#) Am J Pathol. 2002;160(2):739-51. PMID: 11839595

Helicobacter bilis: [Maggio-Price L.](#) Am J Pathol. 2002;160(2):739-51. PMID: 11839595

Helicobacter ganmani: [Tolia V.](#) Helicobacter. 2004;9(5):460-8. PMID: 15361086

Helicobacter hepaticus: [Maggio-Price L.](#) Am J Pathol. 2002;160(2):739-51. PMID: 11839595

Helicobacter mastomyrinus: [Shen Z.](#) Helicobacter. 2005;10(1):59-70. PMID: 15691316

Helicobacter rodentium: [Feng S.](#) Clin Diagn Lab Immunol. 2005;12(4):531-6. PMID: 15817762

Helicobacter typhlonius: [Feng S.](#) Clin Diagn Lab Immunol. 2005;12(4):531-6. PMID: 15817762

Organism: Pneumocystis murina

Sample: Lungs (immunodeficient mouse strains only)

Reference: [Wakefield AE.](#) Mol Biochem Parasitol. 1990;43(1):69-76. PMID: 1705311

Organism: Pasteurellaceae spp.

Sample: Bacteria isolated from the nasopharynx, oxidase-positive, Gram-negative rods with API 20 NE positive for [Pasteurella] pneumotropica or not valid API 20 NE identification, suspected as Muribacter muris ([Actinobacillus] muris)

Method: A multiplex PCR assay allowing detection of all rodent Pasteurellaceae and specific identification of Rodentibacter pneumotropicus ([Pasteurella] pneumotropica biotype Jawetz), Rodentibacter heylii ([Pasteurella] pneumotropica biotype Heyl) and Muribacter muris ([Actinobacillus] muris)

References: [Benga L.](#) J Microbiol Methods. 2013;95(2):256-61. PMID: 24055385

[Dafni H.](#) J Am Assoc Lab Anim Sci. 2019;58(2):201-207. PMID: 30651159.



Health and pathogen history

Buildings **34**, **A**, **CM**, **L** and **Yag** are separated animal facilities, each has dedicated staff. Staff and researchers are not allowed to enter multiple facilities on the same day and animal's transfer between facilities requires authorization (according to health records).

Frequently detected are Mouse Norovirus, Pasteurellaceae, Helicobacter spp. (not including H. bilis), and nonpathogenic protozoa. Less frequently we also find Rodentibacter pneumotropicus, Rodentibacter heyltii, Klebsiella oxytoca Klebsiella pneumoniae, and Proteus mirabilis. Staphylococcus aureus is occasionally detected in rats.

* Pinworms:

Yaglom (Yag) building

Room Yag43, Syphacia obvelata detected by microscopy (1 sentinel rat; Jun-2014).

Following detection, affected room was treated for 9 weeks with **Fenbedazole** in the feed.

Lokey (L) building

Room L331, Syphacia obvelata detected by microscopy (1 sentinel animal; Mar-2015).

Following detection, affected room was treated for 3 weeks with **Ivermectin** aerosols spray or 9 weeks with **Fenbedazole** in the feed.

Building 34

Room 34/211, Pinworms were detected by microscopy (1 breeder animal; June 2019). Following the detection, the room was quarantined and this room and all other rooms in the building were treated for 9 weeks with **Fenbedazole** in the feed. At the end of treatment cycle all rooms in building 34 were retested (August-September 2019) for pinworms by microscopy and PCR (IDEXX BioAnalytics) and found negative.

* Fur mites:

Building 34

Room 34/211, Radfordia affinis detected by microscopy (7 stock animals and sentinels, Oct-2014).

Following detection, all rooms in the building were treated with **MiteArest** for 6 weeks.

Room 34/211 and **Room 34/212**, Radfordia affinis detected by microscopy (3 and 2 stock animals respectively, Mar-2015). Following detection, all rooms in the building were treated with **Ivomec** for 3 weeks.

Lokey (L) building

Room L405, Radfordia affinis detected by microscopy (1 sentinel animal; Jun-2015).

Following detection, affected room was treated with **Ivermectin**.

Building 41 (Closed; animals moved to Comparative Medicine (CM) during 2023)

Room 41/8, Radfordia affinis detected by microscopy (4 sentinel animals; Mar-2017).

Following detection, all rooms in the building were treated with **MiteArest**.