

Rodent Health Monitoring Procedures

North America

Dear Colleagues, North America

Envigo continues to advance its health testing procedures based on the latest information on microbial pathogenicity and testing technology. Envigo is committed to providing the highest quality animals to the research community and our health testing program provides you with assurance of that commitment. Microbiologically defined rodent commercial colonies are maintained within maximum-security production barriers and flexible-film isolators. Colonies are monitored daily for clinical signs of disease, injury, or abnormal behavior, by trained and highly-skilled personnel who are supported by the veterinary medical staff. Testing profiles and frequencies are selected to effectively monitor the colonies for pathogenic and select opportunistic flora. Routinely tested and reported organisms are listed below; additional information is available upon request. In attempt to only provide you with animals that meet your specific health requirements, customers are encouraged to provide Customer Service with a facility or institutional bioexclusion list.

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Bioexclusion Levels: Organisms are excluded from the colonies, and changes in health status are reported according to the bioexclusion levels defined below. Bioexclusion levels for each organism are indicated on the Organism list chart.

Level 1: Excluded from all animals. If a colony is confirmed positive, customers are notified and the colony is closed and repopulated with organism-free animals.

Level 2: Excluded from immunodeficient animals, but not immunocompetent animals. If a colony is confirmed positive, customers are notified. Immunodeficient animal colonies are closed and repopulated with organism-free animals. Immunocompetent colonies are maintained according to customer demand.

Level 3: Excluded based on customer demand. If a colony is confirmed positive, customers are notified and are maintained according to customer demand.

COLONY	ANIMALS TESTED	NUMBER ANIMALS TESTED
Rat and Mouse Barrier	Sentinels ¹	1/species/room
	Colony animals	1/strain/room, 4 total minimum/ barrier
Cotton Rat Barrier	Rat and mouse sentinel ³	1 of each/room
	Colony animals ³	2/room
Hamster Barrier	Sentinel ¹	1/room
	Colony animals	5/room
Rodent Isolator	Sentinels ⁴	2 immunocompetent & 2 immunodeficient/isolator

1 Young adult animals are housed on a bottom shelf, near the room exhaust, and receive dirty bedding from colony animals.

2 Semi-annual tests are performed on one (1) sentinel/species/room minimum, six (6) animals/barrier minimum

3 Cotton rats are not tested serologically; rat and mouse sentinels for this species are tested.

4 Immunodeficient strains are not tested serologically; instead immunocompetent heterozygotes or isolator-reared sentinels are used.

Reporting and Customer Notification of Health

Status Changes: Health reports list the latest test results as well as 18-month historical results and are updated monthly. Routine findings are reported on our website and to individuals who have requested to be placed on our contact list. Customers are notified of changes in health status, once the results are confirmed by phone, e-mail or letter.

Diagnostic Laboratory: Envigo primarily utilizes a third party diagnostic laboratory, IDEXX-BioResearch, for routine health monitoring. Additional commercial diagnostic laboratories are used as necessary.

Serologic evaluations are performed on immunocompetent animals using MFI, PCR, IFA, and secondarily IFA or PCR.

Microbiology procedures: Aerobic and 7% carbon dioxide cultures of nasopharynx and aerobic cultures of cecum are performed.

Parasitological evaluations are performed by direct microscopic examination. The pelage is evaluated for mites and lice. Jejunal and cecal contents and perianal cellophane tape impressions are evaluated for pathogenic and nonpathogenic helminths and protozoa. *Encephalitozoon cuniculi* is screened by serology.

Necropsy procedures include a physical examination, gross examination of tissues, organs, and systems. Abnormal fluids are examined by culture and/or PCR, and organs or tissues with lesions are examined histologically.

Organism List and Testing Frequency

Legend: A = annually, Semi = semi-annually, Q = quarterly, M = monthly, - = not tested. MFI = Multiplex Fluorescent Immunoassay, IFA = Indirect Fluorescent Antibody Testing, PCR = Polymerase Chain Reaction

VIRUSES	BIOEXCLUSION LEVEL	MICE		RATS		HAMSTERS	COTTON RATS	TEST METHODS
		BARRIER	ISOLATOR	BARRIER	ISOLATOR	BARRIER	BARRIER	
Kilham's Rat Virus (KRV)	1	-	-	M	Q	-	M ^a	MFI
Mouse Hepatitis Virus (MHV)	1	M	Q	-	-	-	M ^a	MFI
Mouse Minute Virus(MMV)	1	M	Q	-	-	-	M ^a	MFI
Mouse Parvovirus (MPV)	1	M	Q	-	-	-	M ^a	MFI
Parvovirus NS-1	1	M	Q	M	Q	-	M ^a	MFI
Pneumonia Virus of Mice (PVM)	1	M	Q	M	Q	M	M ^a	MFI
Rotavirus (EDIM)	1	M	Q	-	-	-	M ^a	MFI
Rat Minute Virus (RMV)	1	-	-	M	Q	-	M ^a	MFI
Rat Parvovirus (RPV)	1	-	-	M	Q	-	M ^a	MFI
Rat Theiler Virus (RTV)	1	-	-	M	Q	-	M ^a	MFI
Reovirus 3 (REO 3)	1	Q	Q	Q	Q	M	Q ^a	MFI
Sialodacryoadenitis Virus (SDAV/RCV)	1	-	-	M	Q	-	M ^a	MFI
Sendai virus	1	M	Q	M	Q	M	M ^a	MFI
Theiler's Mouse Encephalomyelitis Virus (TMEV/GDVII)	1	M	Q	-	-	-	M ^a	MFI
Toolan's H-1 Parvovirus	1	-	-	M	Q	-	M ^a	MFI
Mouse Norovirus (MNV)	1	Q	Q	-	-	-	Q ^a	MFI
Simian Virus 5 (SV-5)	1	-	-	-	-	M	-	MFI
Ectromelia (Mousepox)	1	Semi	A	-	-	-	Semi ^a	MFI
Hantaan virus	1	Semi	A	Semi	A	-	Semi ^a	MFI
Lymphocytic Choriomeningitis Virus (LCMV)	1	Semi	A	Semi	A	M	Q ^a	MFI
Mouse Adenovirus-1 (MAD-1)	1	Semi	A	Semi	A	-	Semi ^a	MFI
Mouse Adenovirus-2 (MAD-2)	1	Semi	A	Semi	A	-	Semi ^a	MFI
Mouse Cytomegalovirus (MCMV)	1	Semi	A	-	-	-	Semi ^a	MFI
Polyoma Virus	1	Semi	A	-	-	-	Semi ^a	MFI
K virus	1	Semi	A	-	-	-	Semi ^a	MFI
Lactic Dehydrogenase-Elevating Virus (LDEV)	1	Semi	A	-	-	-	Semi ^a	PCR
Mouse Thymic Virus (MTV)	1	Semi	A	-	-	-	Semi ^a	IFA

^a Cotton rats are not tested serologically; therefore, mouse or rat sentinels are utilized.

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	BIOEXCLUSION LEVEL	MICE		RATS		HAMSTERS	COTTON RATS	TEST METHODS
		BARRIER	ISOLATOR	BARRIER	ISOLATOR	BARRIER	BARRIER	
<i>Bordetella bronchiseptica</i>	3	Semi	A	Q	Q	Q	Q	Culture
<i>Campylobacter jejuni</i>	1	-	-	-	-	Q	-	PCR
CAR bacillus	1	Semi	A	Q	Q	-	Q ^a	MFI
<i>Citrobacter rodentium</i>	1	Q	Q	-	-	-	Q ^a	Culture
<i>Clostridium piliforme</i> (Tyzzer's disease)	1	Q	Q	Q	Q	M	Q ^a	MFI
<i>Corynebacterium bovis</i>	1	-	Q	-	-	-	-	PCR
<i>Corynebacterium kutscheri</i>	1	Q	Q	Q	Q	Q	Q	Culture
Dermatophytes	1	Semi	Q	Semi	Q	-	Semi ^a	Culture
<i>Encephalitozoon cuniculi</i>	1	Semi	A	Semi	A	Q	Semi ^a	MFI
<i>Helicobacter</i> spp.	1	Q	Q	Q	Q	Q	Q	PCR
<i>Klebsiella oxytoca</i>	3	Q	Q	Q	Q	Q	Q	Culture
<i>Klebsiella pneumoniae</i>	3	Q	Q	Q	Q	Q	Q	Culture
<i>Lawsonia intracellularis</i>	1	-	-	-	-	Q	-	PCR
<i>Mycoplasma pulmonis</i>	1	Q	Q	Q	Q	Q	Q ^a	MFI
<i>Pasteurella multocida</i>	1	Semi	A	Semi	A	-	-	Culture
<i>Pasteurella pneumotropica</i>	1	M	Q	M	Q	Q	M	Culture
<i>Pneumocystis</i> spp.	1	Q	Q	Q	Q	Q	Q	PCR
<i>Proteus mirabilis</i>	3	-	Q	-	Q	-	-	Culture
<i>Pseudomonas aeruginosa</i>	2	Q	Q	Q	Q	Q	Q	Culture
<i>Salmonella</i> spp.	1	Q	Q	Q	Q	M	Q	Culture
<i>Staphylococcus aureus</i>	2	Q	Q	Q	Q	Q	Q	Culture
<i>Streptococcus</i> spp. Group B beta	3	Q	Q	Q	Q	Q	Q	Culture
<i>Streptobacillus moniliformis</i>	1	Semi	A	Q	Q	-	Q	PCR
<i>Streptococcus pneumoniae</i>	1	Q	Q	Q	Q	Q	Q	Culture

PARASITES

	BIOEXCLUSION LEVEL	MICE		RATS		HAMSTERS	COTTON RATS	TEST METHODS
		BARRIER	ISOLATOR	BARRIER	ISOLATOR	BARRIER	BARRIER	
Endoparasites	1 / 2 ^b	M	Q	M	Q	M	M	Direct microscopy
Ectoparasites	1 / 2 ^c	M	Q	M	Q	M	M	Direct microscopy

^b Endoparasites in Bioexclusion Level 2 include *Chilomastix* sp., flagellates, *Entamoeba muris*, and trichomonads.

^c Ectoparasites in Bioexclusion Level 2 include *Demodex* spp. in hamsters.

All other endoparasites and all ectoparasites are Bioexclusion Level 1

Contact us

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RMS-0117-US-02-PS-09