

TESTING CELL LINES FOR RODENT INFECTIOUS AGENTS

Research rodents are readily infected by a number of viruses and bacteria which may produce disease and/or significantly alter experimental data. To successfully prevent spread of such agents, it is important that the microbiologic status of rodents housed within research facilities be periodically evaluated.

Many infectious agents of rodents can be carried in cell lines and tissues which, when implanted into naive host animals, may serve as a source of infection. To minimize the likelihood of inadvertent infection of specific pathogen-free rodents with these biological agents (tumors, tissues, cell lines, body fluids, antibody preparations, and hybridomas) which are from rodents, or which have been passaged in rodents must be evaluated for contamination **prior** to experimental use in vivo. **Rodent fresh cells or tissues harvested from within a Specific Pathogen Free (SPF) Purdue University rodent colony and used for a single administration in rodents of the same health status do not require pathogen testing.**

The diagnostic laboratories IDEXX-RADiL and VRL currently offer PCR-based testing and offer a turn-around time of approximately 5 business days. Cell lines may be combined for testing as long as 1×10^6 cells from each line are included in the sample. If the combined sample tests positive for any agent other than *Mycoplasma spp.*, the individual lines in the sample will need tested separately to determine which line is contaminated.

Cell line testing is required for mouse tissues and includes the following agents (IMPACT I, Idexx, or code 1PUM4, VRL):

Mouse parvovirus	Pneumonia virus of mice
Mouse hepatitis virus	Minute virus of mice
Murine Norovirus	Sendai virus
Reovirus type 3	Ectromelia virus
Lymphocytic choriomeningitis virus	K virus
Mouse cytomegalovirus	Hantaan virus
<i>Mycoplasma pulmonis</i> and <i>Mycoplasma spp.</i>	Mouse adenovirus (MAV1, MAV2)
Lactate dehydrogenase elevating virus	Polyoma virus
Mouse thymic virus	Rotavirus
Theiler's mouse encephalomyelitis virus (GDVII)	<i>Corynebacterium bovis</i>

Cell line testing is required for rat tissues and includes the following agents (IMPACT V, Idexx, or code 1PUR3, VRL):

<i>Mycoplasma pulmonis</i> and <i>Mycoplasma spp.</i>	Rat cytomegalovirus
Pneumonia virus of mice	Sendai virus
Kilham's rat virus	Rat coronavirus
Toolan's H-1 virus	Sialodacryoadenitis virus
Rat parvovirus	Seoul virus
Rat minute virus	Mouse adenovirus (MAV1, MAV2)
Lymphocytic choriomeningitis virus	Reovirus 3

IACUC Policy

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Rat theilovirus

As contamination can occur with use and storage, biological agents will need repeat testing every 5 years, or sooner if using in rodents of a cleaner health status. The Laboratory Animal Program can offer investigators advice in testing of samples. Cell line testing results of individual samples obtained must be forwarded to the Laboratory Animal Program for disease surveillance purposes. Failure to comply with this policy can make the PI responsible for the cost of managing outbreaks of disease due to the use of untested biologicals.

Additional Information:

Baker D, **Natural Pathogens of Laboratory Mice, Rats, and Rabbits and Their Effects on Research.** **CMR, 11(2) p. 231-266, 1998.**