

Screening Tumor Cell lines and Biological Materials for Infectious Microbes:

Molecular Testing of Biological Materials-Mouse/Rat (MTBM-M/R)

Sample Preparation and FAQs:

Protecting the health status of experimental animals from infectious disease is critical for obtaining valid, reliable *in vivo* data. An important potential source of viral infections that are introduced into an animal facility is contaminated biological materials that are injected into live animals. Biological materials include tumor cell lines, stem cells, serum, antibodies, and other materials which may have been produced in the presence of serum from infected mice or rats or become contaminated during processing in the laboratory. Contamination poses a risk to multiple populations in an animal facility, and in the case of zoonotic agents such as Lymphocytic Choriomeningitis Virus, there can be health risks for research staff.

The LASP requires use of the Molecular Testing of Biological Materials-Mouse/Rat (MTBM-M/R) Test or equivalent molecular test from approved vendors by ACUC.

Projects involving tumor cell lines and potentially contaminated biological materials may not commence until the ACUC has received documentation of negative test results.

FAQ:

1. What needs to be tested?

All tissue/cell lines, tumors, stem cells, and biological products originating from the NCI-Frederick campus, including tissues/cell lines from the NIH campus, commercial suppliers such as the ATCC (American Type Tissue Collection) and all animal serum products must be tested.

2. Are there any exceptions to the testing requirements?

Spontaneous tumors that arise within NCI-Frederick animals, provided that the cells are not collected during the time of a virus outbreak, may be exempted from testing; however, when a disease outbreak is confirmed within an NCI or NIH animal facility, all biological materials passaged *in vivo* within the previous six weeks should be re-submitted for testing or discarded so that they are not re-introduced into animals. If the passaging history or the parental origin is uncertain, the sample should be resubmitted and tested for the listed agents.

3. What about fresh human tissue?

Yes, although rare, agents such Lymphocytic Choriomeningitis Virus (LCMV) and Reovirus may be transmitted from humans to animals. These tissues need to be from documented HIV-negative and Hepatitis B-negative patients.

4. What is the sample requirement?

For testing cultured cells, submit one vial of 0.5 ml of cells at a concentration of 1×10^7 cells per ml in spent media frozen.

For testing non-cellular material, such as material extracted from cell culture, antibodies, etc. submit one vial with 0.5 ml of the test material, as concentrated as possible. At minimum, the test material should be in the same concentration as the anticipated *in vivo* concentration.

5. How do I submit the samples for testing?

You will need to have an approved NAS request [NCI at Frederick Accessioning System \(NAS\)](#) then submit the online request form at <https://ncifrederick.cancer.gov/lasp/Ahdl/RequestForm.aspx>.

Samples are submitted to the LASP Animal Diagnostic Laboratory (ADL), Bldg.429, FNLCR, Frederick, MD 21702 between the hours of 8:00 am and 4:00 pm.

Questions or concerns regarding the tests and pricing, please contact ADL at 301-846-1134 or Wang-Ting Hsieh, 301-846-7132, hsiehwt@mail.nih.gov.

6. Which agents will be evaluated?

MTBM-M	MTBM-R
Mouse Hepatitis virus (MHV)	Rat coronavirus (RCV)
Polyoma virus (POLY)	Sialodacryoadenitis virus (SDAV)
Sendai virus (SEN)	Sendai virus (SEN)
Pneumonia virus of mice (PVM)	Pneumonia virus of mice (PVM)
Reovirus 3 (REO3)	Reovirus 3 (REO3)
Minute virus of mice (MVM)	Kilham virus (KRV)
Theiler's murine encephalomyelitis virus (GDVII or TMEV)	Toolan's H-1 virus (H-1)
Lymphocytic choriomeningitis virus (LCMV)	Rat Theilovirus (RTV)
Ectromelia virus (ECT)	<i>Mycoplasma spp.</i> (MYCO)
Lactic dehydrogenase-elevating virus (LDHV)	Rat parvovirus (RPV)
<i>Mycoplasma spp.</i> (MYCO)	Rat murine virus (RMV)
Mouse parvovirus (MPV)	Lymphocytic choriomeningitis virus (LCMV)
Mouse norovirus (MNV)	Rat cytomegalovirus (RCMV)
Mouse rotavirus (EDIM or MROTA)	Seoul virus (SEO)
Mouse adenovirus (MAD)	Mouse adenovirus (MAD)
Mouse cytomegalovirus (MCMV)	

7. Who pays for this testing?

Investigators must pay for each line tested.

8. How soon will results be returned?

MTBM-M/R Testing: 10 days to 2 weeks

9. What do I do with the results?

For Bethesda:

Fax results to the Bethesda ACUC Coordinator at 301-402-1276 and specify to which ASP they should be attached.

For Frederick:

Attach results to your ASP or if the ASP was already submitted, fax results to Frederick ACUC Coordinator Angela M. Stahl at 301-846-6682 and specify to which ASP they should be attached.

There is no time limit on validity of results; however, investigators are encouraged to update testing periodically, such as every 10 years, as the sensitivity and agents screened are likely to increase over time.