

## **WVU IACUC Policy:**

### **Pathogen Screening of Biological Material used in Rodents**

#### **Purpose**

The *Guide for the Care and Use of Laboratory Animals* states “Transplantable tumors, hybridomas, cell lines, blood products, and other biologic materials can be sources of both murine and human viruses that can contaminate rodents or pose risks to laboratory personnel (Nicklas et al. 1993); rapid and effective assays are available to monitor microbiologic contamination and should be considered before introducing such material into animals (Peterson 2008).” (p113)

Administration of human- or murine-origin biological material to animals, especially rodents, is common in biomedical research. These products, due to their origin, can carry an increased risk of introducing adventitious pathogens into established rodent colonies. These pathogens can impact animal health and create a confounding variable in research studies. In addition, if excluded rodent pathogens are identified during routine health surveillance this can result in loss of time and resources to manage the outbreak. Therefore, it is important to test all cell line- and biological-derived murine material for rodent pathogens prior to their administration to animals.

Human-origin biological material carries a potential risk for contamination with human pathogens and requires use of universal precautions for blood-borne pathogens to ensure individual safety. All animals receiving human-origin biological material **must** be housed and handled under ABSL2 containment housing and practices. Testing of these materials for human pathogens is not necessary, due to the ABSL2 handling practices.

#### **Policy**

- A. Rodent-origin biological material that **require** testing or confirmation from vendor of pathogen-free status:
1. Rodent-derived cells or cell lines of non-rodent origin that have been passed through rodents.
  2. Transplantable tumors
  3. Tissues (from outside source)
  4. Serum (from outside source)
  5. Embryonic stem cells
  6. Bodily fluids (e.g., sperm ascites)
  7. Basement membrane matrix (e.g., Matrigel)
  8. Antibody preparations passed through rodents
- B. Responsibility of the Investigator
1. Identification and testing rodent-origin biological agents prior to administration to rodents at WVU.
  2. Identification of animals receiving human-origin biological material and ensure they are handled and housed in ABSL2 containment areas.
  3. Cost associated with testing procedures.
  4. Transmission of test results to OLAR Veterinary staff at [OLARvetstaff@hsc.wvu.edu](mailto:OLARvetstaff@hsc.wvu.edu).

C. Required testing and resources

1. All rodent-origin biological material **must** be certified free of murine pathogens prior to introduction into the WVU animal facilities.
2. Investigators will be asked to provide documentation that the materials have been tested and are free of rodent pathogens prior to initiating work, during semi-annual inspections, PAM visits, and/or if an outbreak occurs in their housing room/colony.
3. If the samples are negative for the tested pathogens, the biologicals are approved for use in animals at WVU, with an IACUC-approved protocol in place.
4. Any material found to be positive for rodent pathogens cannot be used in animals.
5. Human cell lines which have not passed through rodents do not require testing.
6. Testing Laboratories
  - a. Charles River Laboratories (<https://criver.widen.net/s/rdjslhlnvr/rodent-cell-line-biologics>)  
(**PREFERRED**)
    - i. WVU Rodent CLEAR panel
  - b. IDEXX laboratories (<https://www.idexxbioanalytics.com/impact-pricing#mouse>)
    - i. Mouse IMPACT 2
    - ii. Rat IMPACT 5
  - c. Instructions for submission can be found on the laboratory website:
    - i. Charles River – see Appendix A
    - ii. IDEXX – <https://www.idexxbioanalytics.com/impact-pcr-0>

**References**

1. [Guide for the Care and Use of Laboratory Animals](#), National Research Council, 2011.
2. <https://www.idexxbioanalytics.com/biological-testing>

# User Guidance

## Cell Line and Research Biologics Testing



To submit samples, please sign up for LTM Customer Operator and Shipper access here:

<https://ltm.criver.com/LTMPublic/RequestAccount.aspx>

Please check off: **Requesting access to an existing customer account**

Reference: 45904 – WVU CELL LINE TAGCenter

Lab Services will set up your user access to this account for submitting samples and provide you with notification when it is complete. This notification will include links for [how to videos and user guides](#) to help you [Create an Order](#) and generate your [LTM Ship label](#). When you create your order, you will need to check off your username (as demonstrated on page 19 of the user guide for order creation) to receive the results report via email.

Cell Lines will be submitted to Charles River Laboratory for PCR testing.

Contact [LabServices@crl.com](mailto:LabServices@crl.com) with any questions.

The Cell Line & Research Biologics Sample Collection Kit can be obtained at the TAGCenter. **The TAGCenter is located in the Health Sciences Center vivarium near the airlock at the end of the 100 hallway.** Below are instructions on sample submission using the kits. After you create your LTM order, write your order # on the cardboard sleeve and deposit the samples in the TAGCenter for submission.

A copy of the report will also go to [olarvetstaff@hsc.wvu.edu](mailto:olarvetstaff@hsc.wvu.edu) and Dr. Rebecca Jernigan, DVM, DACLAM.

Samples will be tested using the custom [WVU Rodent CLEAR](#).

Hantaan, LCMV, MAV 1 & 2, MHV/RCV/SDAV, MNV, Mouse Parvovirus (MPV/MVM), Mousepox (Ectromelia), MRV (EDIM), POLY, PVM, Rat Parvovirus (RPV), Rat Polyomavirus 1, REO, RTV/TMEV, SEND, Seoul, Mycoplasma Genus, and *M. pulmonis*.

Charles River's new [Cell Line & Research Biologics Sample Collection Kit](#) is designed to make submitting your samples as quick and easy as possible. Features of the new kit include:

- Tubes with buffer and CLEAR instructions in a ready-to-use kit
- A buffer, qualified by scientists, that stabilizes samples during shipment
- Shipment at ambient temperature; no dry ice needed

**Instructions for submission of Cell Line & Research Biologics Sample Collection Kit:** If possible, submit one aliquot of 500 µL in the 2 mL screw cap vial with buffer provided by Charles River for each cell line/research biologics for PCR testing.

**Supplies:** (available at TAGCenter) Cell Line & Research Biologics Sample Collection Kit; Four 2 mL screw-cap vials/caps with Charles River provided buffer, plastic tray, cardboard sleeve, return envelope.

**Conditions:** Store refrigerated. Deposit into TAGCenter at ambient temperature. Freezer/dry ice **not** required with buffer. Long term storage can be done at -20°C.

**General Instructions:** One aliquot is adequate for all PCR assays. Upon receipt, a sample lysate will be prepared and will be retained for use for secondary testing, which is automatically performed to confirm for any positive finding. There is no minimum cell number required; however, due to the potential for inhibition due to a large quantity of genomic DNA, please note if the concentration is higher than  $5 \times 10^7$  cells/mL. Samples for Mycoplasma testing should be passaged without antibiotics at least once prior to submission. Since PCR targets small segments of pathogen nucleic acid, cells do not need to be viable for PCR testing. If samples contain DMSO, please indicate this on the submission form to facilitate proper disposal. Sample types for which an aliquot of 200 µL is not possible (e.g., antibody/protein/sperm/embryo), a minimum of 25 µL is required for testing. Please indicate if the protein concentration is greater than 1.5 mg/mL. For tumor tissue, submit a minimum of 50 mg.