

## 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 the Office of Animal Welfare ([iacuc@mail.wvu.edu](mailto:iacuc@mail.wvu.edu)) upon receipt and prior to start of experiment.

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. IDEXX laboratories (<https://www.idexbioanalytics.com/impact-pricing#mouse>)
    - i. Mouse IMPACT 2
    - ii. Rat IMPACT 5
  - b. Charles Rivers laboratories (<https://criver.widen.net/s/rdjslhlhnr/rodent-cell-line-biologics>)
    - i. Mouse/Rat Essential Panel
  - c. Instructions for submission can be found on the laboratory website:
    - i. IDEXX – <https://www.idexbioanalytics.com/impact-pcr-0>
    - ii. Charles River – <https://ltm.criver.com/ltmcatalog/>

**References**

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