| Institutional Animal Care and Use Committee | | UNTHSC |
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| **Title:** Biological Materials used in Rodents | | |
| **Document #:** 053 | **Version #:** 02 | |
| **Approved by IACUC Date: May 17, 2021** | | |

## A. BACKGROUND INFORMATION

a. Rodents are susceptible to infections from various microbial agents. These pathogens can diminish the quality of life for rodents by causing disease and discomfort. In addition, this can lead to the misinterpretation of scientific results and can serve as a source of infection and disease in animal housing facilities. While screening of rodent biologicals adds some expense to the investigators using these agents, disease outbreaks are far more costly for the institution and investigators. Maintaining pathogen free (SPF) rodent colonies is essential for animal health and the continued integrity and quality of scientific research.

b. This policy applies to all rodent derived research biologicals pending approval for use on protocols subject to oversight by the UNTHSC's IACUC.

## B. RESPONSIBILITIES

a. It is the responsibility of the Principal Investigator to attest in the IACUC Protocol that all biological materials used in rodents will be tested for and certified free of murine pathogens prior to being used in rodents.

b. It is the responsibility of the Principal Investigator (PI) or designee to have the biological material PCR tested as described in this policy and provide evidence of testing to the Veterinary Staff and a copy to the IACUC Office.

c. It is the responsibility of the Veterinary Staff and/or designee to review the evidence of testing and giving approval for the use of the items tested.

## C. DEFINITIONS

a. Research Biological – the general term used to describe materials such as cells, tissues, proteins, or other material that is derived from a living system.

## D. PROCEDURES

a. **General Information:**

Research biologicals are often introduced into research animals as part of an investigative procedure, and for this reason, can contribute to inadvertent contamination of the research animals and facility cohorts if the material contains an infectious agent. Any product of rodent origin to be directly introduced into

animals (cells, tumor lines, viral stocks, mouse serum, etc..) must be tested for the presence of adventitious agents before being used.

b. **Biological Screening Requirements:**
To decrease the chance of introducing rodent pathogens into the animal facilities from serum, tumors, viral stocks, and cell lines, and to reduce the risk of introducing zoonotic agent(s) to personnel from these biologicals, these materials must be screened by PCR and confirmed to be negative before use (e.g. injection or implantation) in animals.

c. **Biological to be tested include, but are not limited to (Note: exceptions are reviewed on a case by case basis):**
    i. Any serum, tumor or cell line that originated from mice, rats or other rodents.
    ii. Any serum, tumor or cell line that originated from humans, but then was passed through rodents.
    iii. Any serum, tumor or cell line that has been passed through rodents in any areas outside of UNTHSC and that will be introduced by injection/implantation into mice or rats located at the UNTHSC vivaria. Note: this means re-testing is required even if cells were tested prior to passing through rodents.
    iv. Any serum, tumor or cell line that has not been tested for pathogens in the past three years.
    v. When any pathogen is diagnosed as a result of sentinel surveillance, biological materials used in the rodents in the affected room must be tested for that pathogen.

d. **Required Test Panels:**
Currently, the most cost-effective panel is available through the Research Animal Diagnostic Laboratory (IDEXX-RADIL). If you would like to send your biological material to another vendor for PCR testing, such as Taconic or Charles River, please contact the veterinary staff for details as to which panel is required.
    i. For information on biological materials testing and instructions on sample preparation and shipping, please visit RADIL diagnostic lab at http://www.idexxbioresearch.com/.
    ii. For information on the basics of the testing and includes rodent and human pathogen testing, please visit Charles River Laboratories cell line research biologics screening at: https://www.criver.com/products-services/research-models-services/animal-health-surveillance/cell-lineresearch-biologics-screening?region=3601
    iii. For Charles River Laboratories sample submission form which includes details on what to collect and how to store and ship samples, please visit: https://www.criver.com/sites/default/files/resources/InfectiousDiseasePCRTestingSubmissionForm.pdf

e. **Species Specific Panels:**

i. IMPACT II Mouse Panel – Standard testing includes the following agents:

1. Mycoplasma spp.
2. Reovirus 3
3. Sendai virus
4. Mouse rotavirus
5. Mouse hepatitis virus
6. Ectromelia virus
7. Pneumonia virus of mice
8. Lymphocytic choriomeningitis virus
9. Minute virus of mice
10. Polyoma virus
11. Mouse parvovirus (MPV1, MPV2, MPV3)
12. Lactate dehydrogenase-elevating virus
13. Theiler's murine encephalomyelitis virus
14. Mouse adenovirus (MAD1, MAD2)
15. Murine norovirus
16. Mouse cytomegalovirus

ii. IMPACT V Rat Panel – Standard testing includes the following agents:

1. Mycoplasma spp.
2. Rat coronavirus
3. Pneumonia virus of mice
4. Sialodacryoadenitis virus
5. Kilham's rat virus
6. Rat minute virus
7. Toolan's H1 virus
8. Seoul virus
9. Rat parvovirus
10. Mouse adenovirus
11. Lymphocytic choriomeningitis virus
12. Reovirus 3
13. Rat cytomegalovirus
14. Rat theilovirus
15. Sendai virus

f. **Exceptions**

Exceptions to screening requirements outlined in this policy may be granted by the IACUC.

## E. REFERENCES

National Research Council. Institute for Laboratory Animal Research. 2011. Guide for the Care and Use of Laboratory Animals. Public Health Service, Bethesda, MD.