1. PURPOSE

1.1. The purpose of this Animal Care and Use Procedure (ACUP) is to describe biologic material screening panel selection and sample submission. This ACUP is approved by the Cornell Institutional Animal Care and Use Committee (IACUC). Any deviation must be approved by the IACUC prior to its application.

2. SCOPE

2.1. This ACUP is intended for use Principal Investigators (PIs), and PI staff and Center for Animal Resources and Education (CARE) at Cornell University staff.

3. INTRODUCTION

3.1. Biological material refers to cell lines, transplantable tumors, serum, tissues, body fluids, antibody preparations or hybridoma lines. When biological material is introduced into an animal, it is a potential source of contamination by adventitious pathogens. It is best practice to test biological materials for specific pathogens from a CARE approved diagnostic laboratory (e.g. IDEXX, Charles River Laboratories).

3.2. In an effort to protect staff members working with animal models that have been exposed to human cells or tissues, do not introduce biological materials into rodents in any animal facility at Cornell University without prior consultation with the CARE veterinarians and approval from Cornell’s Institutional Biosafety Committee (IBC).

3.3. Contact CARE at care@cornell.edu for more information or for assistance.

4. MATERIALS AND EQUIPMENT

4.1. Use recommended sample collection and packing materials according to procedures outlined by the diagnostic laboratory.

5. PROCEDURES

5.1. Non-Rodent Recipient Species
5.1.1. Introduction of non-FDA / USDA approved biologics (e.g., serum or cells harvested and/or cultured) into animals presents a potential for transmission of infectious agents. Assure that all biologics are of an analogous pathogen status relative to recipient animal populations.

5.1.2. Biological Material of Human Origin:

5.1.2.1. All biological materials of human origin must be reviewed and approved by Cornell’s IBC prior to use.

5.1.2.2. Even in the absence of overt contamination, biologicals of human origin must be treated as though they are contaminated with infectious agents.

5.2. Rodent Recipients

5.2.1. Testing Options and Instructions for the PI

5.2.1.1. Biological Material of Animal Origin:

5.2.1.1.1. Contact CARE at care@cornell.edu if assistance is needed in testing of biological material.

5.2.1.1.2. Biologics that should be tested prior to in vivo rodent use:

5.2.1.1.2.1. Rodent derived cell lines, transplantable tumors, serum, tissues, body fluids, antibody preparations and hybridomas derived originating from colonies outside of Cornell University.

5.2.1.1.2.2. Non-rodent derived cell lines, transplantable tumors, serum, tissues, body fluids, antibody preparations and hybridomas that have passaged through rodents or have been exposed to rodents outside of Cornell University colonies.

5.2.1.2. Considerations:

5.2.1.2.1. Testing is not necessary for the following:

5.2.1.2.1.1. Non-rodent derived biologicals with accompanying documentation verifying:

5.2.1.2.1.1.1. That these materials have not been passaged through rodents.

5.2.1.2.1.1.2. That these materials have not been exposed to rodent-derived products.

5.2.1.2.1.2. Commercially obtained biologicals for which the vendor can supply valid pathogen-negative PCR results.

5.2.1.2.1.3. If the biological material is derived from donor animals housed at Cornell in a room or facility of the same health status and it is not exposed to other rodent-derived products (e.g., sera).
5.2.1.2.2. Contamination of biologicals:

5.2.1.2.2.1. Contamination can occur during handling and storage, and re-testing of these biologicals may be warranted. It is best practice to have documentation explaining:

5.2.1.2.2.1.1. The nature of how the biologicals have been stored and handled since the original testing.

5.2.1.2.2.1.2. The pathogen status of the original and new rodent facility and room at Cornell (e.g., “no known pathogens-barrier” vs. “accepted pathogens-barrier”).

5.2.1.2.3. Quarantine projects:

5.2.1.2.3.1. If the entire research protocol will be conducted in a quarantine facility where the animals will be sentinel tested for pathogens, and the animals will not be moved to another Cornell facility at any point during the study, testing of rodent biologicals prior to use can be eliminated per CARE veterinarian approval. Contact CARE for more details on sentinel testing in quarantine.

5.2.1.3. Biological Material of Human Origin:

5.2.1.3.1. Even in the absence of overt contamination, biologicals of human origin must be treated as though they are contaminated with infectious agents.

5.2.1.3.2. All biological materials of human origin must be reviewed and approved by Cornell’s IBC prior to use.

5.2.2. Pathogen Testing Selection:

5.2.2.1. Biologics of rodent origin should be tested for a specific set of pathogens (see Appendix for description).

NOTE: These recommendations may vary with individual facility requirements.

5.2.3. Submitting Samples:

5.2.3.1. Submit samples according to diagnostic laboratory directions.

5.2.3.1.1. As applicable, review IDEXX or Charles River Laboratories testing options on their website (cited below).

5.2.3.1.2. Consult CARE if further assistance is needed.
6. PERSONNEL SAFETY

6.1. Medical Emergencies: **CALL 911.**

6.2. When working with animals wear appropriate PPE, observe proper hygiene, and be aware of allergy, zoonosis, and injury risks. Refer to the CARE Occupational Health and Safety webpage for more information.

7. ANIMAL RELATED CONTINGENCIES

7.1. Post contact information for emergency assistance in a conspicuous location within the animal facility.

7.2. Emergency veterinary care is available at all times including after working hours and on weekends and holidays:

   7.2.1. Biomedical Settings: CARE (pager 1-800-349-2456)
   7.2.2. Farm Animal Settings: Ambulatory and Production Medicine Service at (607) 253-3140.

7.3. Non-emergency veterinary questions & requests for care, email CARE veterinary staff at care@cornell.edu.

8. REFERENCES

8.1. Idexx BioResearch:
   http://www.idexxbioresearch.com/biological-testing

8.2. Charles River 360° Diagnostics:

8.3. National Cancer Institute-Frederick Guidelines Regarding Engraftment of Human Cells or Tissues into Immunodeficient Mice:
   http://ncifrederick.cancer.gov/Lasp/acuc/Frederick/Media/Documents/ACUC15.pdf

8.4. CARE Occupational Health and Safety webpage:
   http://ras.research.cornell.edu/care/OHS.html
9. APPENDIX

9.1. Suggested Minimal Pathogens to Screen for to Maintain Pathogen-Free Status of Biological Material*

<table>
<thead>
<tr>
<th>Mouse Pathogens</th>
<th>Rat Pathogens</th>
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<tbody>
<tr>
<td><em>Mycoplasma</em> spp.</td>
<td>Kilham’s rat virus</td>
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<tr>
<td>Sendai virus</td>
<td>Toolan’s H1 virus</td>
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<td>Mouse hepatitis virus</td>
<td>Rat parvovirus</td>
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<tr>
<td>Pneumonia virus of mice</td>
<td>Rat cytomegalovirus</td>
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<tr>
<td>Minute virus of mice</td>
<td>Rat coronavirus</td>
</tr>
<tr>
<td>Mouse parvovirus (MPV-1,2,3)</td>
<td>Rat minute virus</td>
</tr>
<tr>
<td>Theiler’s murine encephalomyelitis virus</td>
<td>Sialodacryoadenitis virus</td>
</tr>
<tr>
<td>Murine norovirus</td>
<td>Seoul virus</td>
</tr>
<tr>
<td>Reovirus-3</td>
<td><em>Mycoplasma</em> spp.</td>
</tr>
<tr>
<td><em>Mouse rotavirus</em></td>
<td>Sendai Virus</td>
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<tr>
<td>Ectromelia virus</td>
<td>Lymphocytic choriomeningitis virus</td>
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<tr>
<td>Lymphocytic choriomeningitis virus</td>
<td>Pneumonia virus of mice</td>
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<tr>
<td>Polyoma virus</td>
<td>Lymphocytic choriomeningitis virus</td>
</tr>
<tr>
<td>Lactate dehydrogenase-elevating virus</td>
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<tr>
<td>Mouse adenovirus (MAD-1,2)</td>
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<tr>
<td>Mouse Cytomegalovirus</td>
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<td>K virus</td>
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<tr>
<td>Mouse Thymic virus</td>
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<td>Hantaan virus</td>
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*Specific pathogen testing may be done at facility level.

10. HISTORY

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