STANDARD OPERATING PROCEDURES

DIVISION OF COMPARATIVE MEDICINE
UNIVERSITY OF SOUTH FLORIDA

TITLE: **Characterization of Biologics for Use in Rodents**
SCOPE: All Program Personnel
RESPONSIBILITY: All Program Personnel
PURPOSE: To outline the proper procedures for testing cell lines, tumor resections, or other biologics of rodent or human origin prior to use in rodents.

I. PURPOSE

1. This SOP outlines the proper procedures to be followed for testing cell lines, tumors, or other biologics of rodent or human origin when proposed for use in rodents.

II. RESPONSIBILITY

1. Research Principal Investigators and staff are responsible for appropriately submitting sample vials frozen, for ensuring Excel submission form(s) are completed correctly and submitted electronically to the Assistant Director.

2. Facility Managers and/or Supervisors are responsible for delivering frozen samples to the Assistant Director for shipping.

3. The Assistant Director is responsible for facilitating the shipment of samples, and for maintaining records of diagnostic lab submissions. Upon completion of testing, the Assistant Director will provide the results to the PI/research staff for uploading to relevant IACUC protocols in ARC.

III. BACKGROUND & SCOPE

1. Experimental administration of tumor resections, cells, cell lines, cellular mixtures, or other biologics of rodent or human origin, including primary explants from human patients represent a potential biosecurity hazard for rodent facilities and the personnel that work therein. Many rodent research models are at risk of having produced research data invalidated when adventitious (e.g., subclinical) infections are acquired in study animals. Vendors and other providers of biologics do not routinely complete comprehensive rodent or human pathogen testing of biologics provided.

2. Biological materials, including all rodent- or human-derived cell lines, transplantable tumors, hybridomas, externally sourced rodent tissues or excrement (e.g. feces), primary human patient explants, and blood products should be evaluated prior to use in rodents to ensure each is free of excluded murine infectious agents (e.g., Parvovirus, Corynebacterium bovis, Mycoplasma) and if primary human patient-derived, of human infectious agents of concern (e.g., HIV, HTLV, Hepatitis).

3. Other non-biological materials, including molecules, nanoparticles, cytokines, or lipoproteins that are produced chemically or using recombinant technology, and sterile preparations of drugs, vehicles, and isotonic fluids are exempt from this evaluation.

IV. PROCEDURES

1. Biologicals intended to be used in rodents should be submitted for evaluation and listed on an approved IACUC protocol, with results of testing for excluded infectious agents attached in section 15.

2. Cells, cell cultures, or liquid biologic samples planned for research use in mice should be collected aseptically to prevent contamination and submitted frozen to the animal facility manager for characterization.

3. One cryovial containing a minimum of $1x10^6$ cells/vial of each cellular sample, currently in, or planned for active research use involving mice should be tested. Cells may be in the form of a pellet, or in growth media, freeze media, or phosphate buffered saline. For liquid samples, one cryovial with 0.5 mL of liquid sample/vial should be tested. For murine fecal samples, a minimum of 2 and maximum of 10 fecal pellets per vial should be tested.

4. Frozen samples are submitted to the Facility Manager, along with a paper copy of an electronically completed **CMDC #241** entitled ***Cells, Cell Lines, & Biologics Characterization Submission form***. This form is also submitted in its original Excel format to compmed@usf.edu for uploading to IDEXX Bioresearch and is viewable at http://www.usf.edu/research-innovation/comparative-medicine/animal-health-surveillance.aspx

5. Upon receipt of the biological samples and completed form CMDC 241 from the Facility Manager, the Assistant Director will choose the appropriate test panel.
    a. All biological samples that are checked “murine derived, human derived, other, propagated in vitro, propagated in vivo” will be sent to IDEXX for testing of 8 agents; labelled **USF Mouse IMPACT Panel A**.
    b. The murine agents tested for are Mycoplasma spp., *Mycoplasma pulmonis*, Mouse hepatitis virus (MHV), Minute virus of mice (MVM), Mouse Parvovirus (MPV1-5), Lymphocytic choriomeningitis virus (LCMV), and Lactate dehydrogenase-elevating virus (LDEV) and *Corynebacterium bovis*.
    c. All biological samples that are checked primary-patient derived will also be tested, in addition to the above 8 murine agents, using the **USF h-IMPACT Panel A.**
    d. The human agents tested for are Human immunodeficiency virus 1 (HIV1), Human immunodeficiency virus 2 (HIV2), Human T-lymphotropic virus 1 (HTLV1), Human T-lymphotropic virus 2 (HTLV2), Hepatitis A, Hepatitis B, and Hepatitis C.
    e. For fecal samples intended for fecal microbiota transplant (FMT) into colony mice, fecal samples will be tested in accordance with the Rodent Quarantine SOP 411 for fecal pellet PCR, using the **USF Quarantine Panel (feces)**. Murine agents tested for include: MHV, MVM, MPV (MPV1-5), TMEV, EDIM, MNV, *Helicobacter* and *Corynebacterium bovis* and pinworms (*Syphacia* spp. and *Aspiculuris tetraptera*).

6. Specimen test results will be emailed to the research lab address requested on form **CMDC #241**.

7. Upon receiving test results via email, the PI or research laboratory personnel will upload specimen test results to the relevant IACUC protocol(s) or IACUC application(s) as an attachment to item **15.13.2b**.
    a. To upload test results to an IACUC application, attach to item **15.13.2b**.
    b. To upload test results to an IACUC approved protocol, create a new modification (i.e., procedural change) to the protocol, and attach to item **15.13.2b.**

8. A positive test result showing the presence of a murine or human pathogen on the IMPACT exclusion list is reason to discontinue use of that biologic in animal models. A positive test result showing the presence of *Mycoplasma sp.* is reason to review the sterility of equipment, supplies, and methods used in *in vitro* culturing and preparation of biologics.

9. Once a biologic from a specific source has been tested and approved, the product will not require retesting **for 6 years.**

Approved: **Date:**