

<b>Institutional Animal Care &amp; Use Program - UTEP</b>	
<b>Title:</b> Transplantable Cell Lines	
<b>Policy#:</b> 017	<b>Date in Effect:</b> 27 March 2015
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<b>In Effect</b> <input checked="" type="checkbox"/> <b>Rescinded</b> <input type="checkbox"/>	<b>Date Rescinded:</b>

#### A) RESPONSIBILITIES

In an effort to protect the rodent colony at UTEP, all biologicals (human and animal derived) must be pre-screened before introducing into animals at UTEP. Test results must be reviewed by the Attending Veterinarian (AV) or designee prior to use in animals. It is the responsibility of the IACUC to review for approval, properly justified requests for an exception to this policy.

#### B) BACKGROUND INFORMATION

When biological material is introduced into rodents, it is a potential source of contamination by adventitious pathogens. Between 15-30% of all cell lines may be cross-contaminated with other cell lines or are misidentified (*Science, Feb. 2007*). Pathogens have the potential not only to infect individually inoculated animals but may also spread throughout rodent colonies. Rodents are susceptible to a large variety of viral and bacterial agents. Commonly encountered pathogens include parvoviruses and corona viruses. Parvoviruses target rapidly dividing cells of the intestinal and lymphoid tissues, and are common in rodents, transplantable tumors and other biological materials. Mouse hepatitis virus (MHV) is a very commonly encountered corona virus that can replicate in numerous tissues including lymphoid organs and bone marrow. This virus may also be a common contaminant of transplantable cell lines. Other viruses and bacteria may be prevalent in some facilities and many of these pathogens can cause significant immunologic alterations and in some cases they may also induce significant morbidity and mortality of rodents. Some of these agents do not cause clinical disease but have the potential of interfering with research. In addition, human-derived biological materials and cell lines may carry human pathogens that may affect animal health or experimental outcomes. Screening for certain human pathogens prior to implantation in rodents

may be prudent.

PCR-based tests are available for mouse and rat pathogen contamination of biological specimens. Collection of material must be performed aseptically. Cost varies with the lab and the panel requested. Panels are available for other species such as hamsters.

#### C) DEFINITIONS

- 1) Biological Material: Cell lines, transplantable tumors, serum, tissues, body fluids, antibody preparations or hybridoma lines.

#### D) PROCEDURES

- 1) When new biological (human or rodent) materials are prepared or imported/purchased commercially for use in animals, in consultation with the AV, they will be tested for a subset of prevalent adventitious agents\* through:
    - a) Charles River (<http://www.criver.com/products-services/basic-research/health-monitoring-diagnostic-services/cell-line-research-biologics-screening>).
    - b) IDEXX-RADIL  
[http://www.idexxbioresearch.com/radil/Biological\\_Materials/Biological\\_Materials\\_Testing/](http://www.idexxbioresearch.com/radil/Biological_Materials/Biological_Materials_Testing/)
- \*see examples in table 1*
- 2) Biological materials actively grown at UTEP should be tested annually (in consultation with AV) to ensure they remain free of pathogenic contaminants unless an exception is granted by the IACUC.
  - 3) Submit results to and obtain approval from the AV prior to introducing biologicals into animals at UTEP.
  - 4) Adventitious agents below are subject to change depending on species being tested.

*Table 1*

Example of Adventitious Agents

*Mycoplasma* spp.

*Mycoplasma pulmonis*

Sendai virus

Mouse hepatitis/coronavirus (MHV)

Pneumonia virus of mice (PVM)

Minute virus of mice (MVM)

Mouse parvovirus (MPV1-5)

Theiler's murine encephalomyelitis virus (TMEV)

Murine norovirus (MNV)

Reovirus 3 (REO-3)

Mouse rotavirus (Epizootic Diarrhea id Infant Mice;EDIM)

Ectromelia virus (Mousepox)

Lymphocytic choriomeningitis virus (LCMV)

Polyoma virus (K Virus [Murine Pneumotropic Virus])

Lactate dehydrogenase-elevating virus (LDV,LDHV)

Mouse adenovirus (MAd-1, Mad-2, MAV)

Mouse cytomegalovirus (MCMV)

Mouse thymic virus (MTV, MTLV)

Hantaan virus (Hantaan, Prospect hill, Puumala, Dobrava, Seoul, Sin Nombre, etc.)