

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 Rescinded 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	Date Rescinded:

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 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, *see examples in table 1*, 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/
- 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 Attending Veterinarian prior to introducing biologicals into animals at UTEP.

Table 1

Adventitious Agents
<i>Mycoplasma</i> spp.
<i>Mycoplasma pulmonis</i>
Sendai virus
Mouse hepatitis virus
Pneumonia virus of mice
Minute virus of mice
Mouse parvovirus (MPV1-5)
Theiler's murine encephalomyelitis virus
Murine norovirus
Reovirus 3
Mouse rotavirus
Ectromelia virus
Lymphocytic choriomeningitis virus
Polyoma virus
Lactate dehydrogenase-elevating virus
Mouse adenovirus (MAD1, MAD2)
Mouse cytomegalovirus
K virus
Mouse thymic virus
Hantaan virus