

**UNIVERSITY OF CALIFORNIA, SAN DIEGO
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**

Policy and Guidelines for the Use of Biologicals in Rodents

Tumors, cell lines and other biologicals, including serum and embryonic stem cells, may be contaminated with rodent diseases. Usually, contamination occurs by deriving cell lines or other biologicals from rodents, or by passaging them through rodents at some point. Many rodent pathogens survive quite well in cell culture environments and can therefore be passed back into other rodents. Outbreaks of Lymphocytic Choriomeningitis (LCM) virus, Mouse Hepatitis Virus (MHV), and other diseases have occurred because of contaminated cell or tumor lines. Unfortunately, the major suppliers of cell lines and tumors do not generally test for rodent viruses, although they often test for bacteria, fungi and Mycoplasma.

There are several procedures available to assure the safe use of biologicals at UCSD. All use of biologicals in animals or in laboratories using animals must follow one of these procedures. Use of animals requires an approved animal use protocol with a complete description of the use of biologicals.

Pathogen Testing

Mouse and Rat Antibody Production: MAP or RAP tests are performed to detect contamination of biologicals with rodent viruses. The biologicals to be tested are injected into mice or rats, and after a certain time point, the animals are euthanized and serological tests performed. When performed by the ACP Diagnostic Laboratory the costs of these tests can range from \$500-\$600 per cell line (testing for 12-16 pathogens). Also, various vendors such as Simonsen, Taconic, Harlan Sprague Dawley and Charles River labs can perform these tests. When performed by vendors, it generally takes about 8 weeks for results.

Polymerase Chain Reaction (PCR). Results can be obtained more rapidly by this method, but the cost of having this performed by vendors is significantly higher, about \$500 per virus tested. The ACP Diagnostic laboratory is also planning to offer these tests in-house in the future.

Exemption

Biologicals may not need to be tested if there is significant evidence to prove that they are free from rodent pathogens. Examples of such cases are as follows:

- 1) This cell line has been used chronically in animals for several years at UCSD with no positive sentinel results, and the biologicals have not been sent to another facility and then returned.
- 2) The supplier of the biologicals can document testing for rodent pathogens, and the biologicals have not been passaged through rodents since that time.
- 3) The biologicals have come directly from humans and have been tested for human pathogens.
- 4) You can provide a complete history of colony health of all rodent colonies the biological has passed through, and the colony health reports are clean.

Each biological will need to be assessed on a case by case basis to determine if further testing is needed.

Quarantine

An alternative to testing biologicals or providing evidence that biologicals are free of pathogens is to conduct studies utilizing biologicals in a quarantine facility. The UCSD Animal Care Program has quarantine space available in the BSB Rodent Isolation Unit (RIU). Studies utilizing biologicals can be performed under quarantine conditions with the provision that personnel are trained in the policies and procedures for use of the RIU facility.

Please contact the [UCSD Animal Care Program](#) for testing incoming biologicals, scheduling use of the RIU, or review of evidence that biologicals are pathogen free.