

University of Cincinnati
Animal Care and Use Program

Guideline for Use of Biological Substances in Rodents

Purpose

To provide information related to biosafety/biosecurity procedures prior to administration of biological substances to rodents.

Responsible Persons

It is the responsibility of the researcher to ensure use of techniques, procedures, and materials that minimize risk to all rodent colonies at UC.

Background and Impact

Collaborating researchers may unwittingly share infected tissues or cells, which may inadvertently contribute to the spread of contaminating agents between research facilities. While historical¹ and modern² evidence indicates that the prevalence of contamination has decreased in recent years, precautions must be taken to protect the integrity of our research vivaria and prevent costly outbreaks which can negatively impact animal health and research timelines.

What Should be Tested

Commonly screened rodent biologics include: (1) cell lines (primary and continuous); (2) cell line products (i.e., basement membrane matrix proteins); (3) feeder cells (e.g., splenocytes); (4) ascites; (5) purified antibodies; and (6) tumors. Specific examples include:

1. Any rodent-derived biological material not obtained by primary isolation from rodents currently housed in a LAMS vivarium
2. Any rodent-derived biological material that is not commercially produced by an approved vendor
3. Human-origin or non-rodent tumors and cell lines that have never been passaged through or exposed to rodents or grown on rodent feeder cells
4. Viral vectors (e.g. adeno-associated virus [AAV], adenovirus, lentivirus, MMTV) that are produced using cell lines and protozoal parasites that were isolated from or were passaged in rodents outside of your colony

Prepare and Ship Biologicals for Testing

LAMS utilizes Charles River Laboratories for testing. There are two options for submission:

1. Visit [Charles River LTM™](#) and follow the instructions to create an account, fill out a submission form, and track your testing with Charles River. LTM™ is available in multiple languages.
2. Print and complete the [Cell Line and Research Biologics PCR Testing Submission Form](#).
 - a. Include page 1 with your samples
 - b. Reference page 2 for sample specifications and storage, and sample submission

Ship following International Air Transport Association guidelines for shipping [Category A](#) or [Category B](#) specimens.

Communicating Results

Send the results to LAMS-veterinary@uc.edu for review and approval **PRIOR** to use of rodent biological materials in a LAMS vivarium.

References

1. Nicklas W, Kraft V, Meyer B. Contamination of transplantable tumors, cell lines, and monoclonal antibodies with rodent viruses. *Lab Anim Sci.* 1993;43(4):296-300.
2. Buchheister S, Bleich A. Health Monitoring of Laboratory Rodent Colonies-Talking about (R)evolution. *Animals (Basel).* 2021;11(5):1410.