

# UC SANTA BARBARA

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IACUC GUIDELINE:	ANIMAL PROCUREMENT, TRANSPORTATION, QUARANTINE, and PREVENTIVE MEDICINE
DATE IMPLEMENTED:	May 21, 2010
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Federal regulations, Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals ([Policy](#)), and the *Guide for the Care and Use of Laboratory Animals (Guide)*, require Institutions that receive PHS-supported animal research funding to include in all approved animal protocols the numbers of animals used in that research, that “all animals must be acquired lawfully” and “that there are sufficient facilities and expertise to house and manage the species being acquired.” The Office of Laboratory Animal Welfare, the agency responsible for interpreting these regulations, has clarified that Institutions must “establish mechanisms to document and monitor numbers of animals acquired and used, including any animals that are euthanatized because they are not needed.” Finally, the *Guide* identifies disease prevention as an essential component of the animal care and use program, because an “effective disease prevention program enhances the research value of animals by maintaining healthy animals and minimizing non-protocol sources of variation associated with disease and inapparent infection, thus minimizing animal waste and potential effects on well-being.”

This document summarizes specific operational elements and procedures that were created to ensure compliance with this Federal animal care and use regulation and guideline, including procedures for ensuring an accurate accounting of the UCSB animal census.

## **Operational Elements and Procedures**

1. Facilities Design and Use
  - Each animal facility should provide for the physical separation of animals by species to prevent interspecies disease transmission and to eliminate the potential for

anxiety and physiological and behavioral changes due to interspecies conflict, except in cases when multiple species are commonly housed together (e.g., aquatic species at the REEF).

- Intraspecies separation may be required when animals are obtained from multiple sites or sources.
  - Intraspecies separation may be required when animals, especially rodents, differ in their immune status or susceptibility to disease.
  - Consumables such as animal food, water and bedding should be treated (e.g. sterilized or filtered) and/or handled to ensure that they do not serve as fomites, and should be stored in vermin-proof containers, or in storage areas where vermin infiltration is prevented.
  - An animal housing location is any facility where live vertebrate animals are maintained for >12hrs in the case of regulated species or >24hrs for nonregulated species. Animals should be housed in the Animal Resource Center, or a dedicated animal housing facility (e.g., SNARL, Marine Fish Facility), and not in laboratories or classrooms merely for convenience. However, the IACUC realizes that animals may need to be maintained in a laboratory or classroom to satisfy the scientific or teaching aims of the protocol. IACUC approval for animal housing in a laboratory or classroom is therefore dependent upon:
    1. a compelling research or academic justification for establishing a new satellite animal housing area
    2. review of the animal husbandry and care procedures (please use the SOP template available on the UCSB IACUC website that is appropriate for your animal species)
    3. availability of sufficient numbers of appropriately trained staff/students to care for the animals
    4. enrollment of all animal care staff in the occupational health program
    5. inspection of the proposed animal housing area by the Attending Veterinarian and/or the IACUC to ensure that it is appropriate for housing animals. All animal housing locations will be inspected on a regular basis (i.e., every 6 months).
  - Each animal facility should develop standard operating procedures (SOPs) for animal care and husbandry of the resident species.
2. Animal Procurement and Census
- The source (e.g., commercial vendor, or wild-caught) of all live vertebrate animals used for research or teaching activities should be identified and approved in the IACUC protocol, and all the necessary permits for wild-caught or detrimental species must be obtained prior to acquiring those animals.
  - The number of animals in the in-house breeding colonies (typically laboratory mice and rats) must be accurately tracked in real-time by investigators to ensure that the number of animals approved on the protocol is not exceeded. In addition to the number of animals used in experiments, this tracking must include all breeders and all animals euthanized because they did not meet the experimental criteria.

- Procurement of animals that have been surgically-modified by the vendor requires UCSB IACUC review and approval of the surgical procedure(s) and scientific justification for the animal surgery being performed by the vendor.
- The Animal Resource Center (ARC) must be notified of the animal procurement, if the animal(s) will be housed in any campus animal facility managed by the ARC. The ARC will ensure that animals are acquired from pre-qualified animal vendors, arrange for quarantine housing and health monitoring, if needed, and will track the number of animals procured by species and protocol so that it can report those numbers to the PI and/or the IACUC upon request. The ARC does not track animals that are bred in-house, wild-caught, and/or maintained in satellite facilities.
- The [Attending Veterinarian](#) (AV) should be notified of acquisitions of live vertebrate animals that will be housed at any satellite animal facility prior to their arrival, if these animals will be acquired from a source/location that is different than those of the animals already housed in the satellite facility.
- Copies of all necessary permits, and reports of all animal acquisitions (i.e., Mandatory Wildlife Report, [CDFW form 1379a](#)) should be maintained by all animal facilities (i.e., ARC and satellite facilities) and made available to the IACUC upon request.

### 3. Animal Trapping

- Animal trapping refers to the setting of physical traps (e.g. Sherman or Tomahawks traps) to capture animals, but it does not refer to the direct capture (by darting, nosing, or by hand) of animals. When traps are set to capture animals, they should be appropriate in size and material construction for the species being captured, and they should not cause harm or injury to the animal. The traps must be checked with enough frequency (at least daily) to assure that the animal does not go without food, water or shelter for an unnecessary period of time.

### 4. Animal Transportation

- As per the *Guide*, “the process of transportation should provide an appropriate level of animal biosecurity<sup>1</sup> while minimizing zoonotic risks, protecting against environmental extremes, avoiding overcrowding, providing for the animals’ physical, physiologic, and behavioral needs and comfort, and protecting the animals and personnel from physical trauma.”
- Transporting live vertebrate animals out of the animal housing facility (vivarium, or satellite facility) is strongly discouraged, or even prohibited for some animal populations (see examples below). If you must transport live vertebrate animals on campus, then you must do so according following conditions.

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<sup>1</sup> Animal biosecurity refers to all measures taken to identify, contain, prevent, and eradicate known or unknown infections that may cause clinical disease or alter physiologic and behavioral responses or otherwise make the animals unsuitable for research.

- Transportation procedures for non-mammalian species housed at satellite facilities or in the ARC should be described in an IACUC-approved husbandry and care SOP.
- Non-rodent, mammalian species (i.e., rabbits) housed in the ARC may not be removed from the vivarium.
- Rodents from the ABSL2 or quarantine rooms of the ARC may not be removed from the vivarium.
- Rodents may only be transported from the ARC vivarium to a laboratory or classroom, if the animals are contained in clean (fresh bedding) rodent cages with filtered-tops, or take-out boxes (mice only). Clean rodent cages should be used instead of take-out boxes if the rodents will not be immediately used for experiments in the laboratory or classroom as these will more securely and safely contain the rodents. The cages should be carried by hand or transported on carts. A drape or opaque cloth material should be placed over the cages. After transportation, all empty rodent cages should be promptly returned to the soiled-side of the cage wash area in the ARC vivarium. Take-out containers should be bagged and then disposed of as solid waste.
- Animals housed in the ARC, especially rodents, may not be returned to the vivarium without prior approval from the AV who needs to ensure that appropriate biosecurity precautions are in place for their return.
- Interinstitutional (between UCSB and other academic institutions) live-animal transfers should be performed or coordinated by the ARC. Research personnel should contact the ARC Manager to arrange for this service (<https://www.research.ucsb.edu/animal-subjects/animal-resource-center>)
- For wildlife, transportation that occurs between the capture site and the animal holding facility should be described in the approved animal protocol.
- According to the *Guide*, newly received animals should be provided an acclimation period prior to use. The duration of this acclimation period will vary depending on the method of transportation, the animal species being transported, and the intended experimental use of that species. Transportation over substantial distance and duration can result in physiological disruptions and stress for the animals being transported. In these circumstances it is recommended that the animals be provided with a minimum acclimation period of 48 hours before initiation of experimental procedures, unless the intended experimental use of the animals requires that they be immediately euthanized upon arrival. Acclimation is generally not required following the transportation of animal between on-campus animal facilities, or between on-campus animal facilities and procedural areas in a laboratory.

## 5. Animal Quarantine<sup>2</sup>

- Quarantine is recommended for animals that are not procured from a commercial source that has been pre-qualified by the AV.
- The AV shall establish the method and the duration of the quarantine requirement for the ARC, and should be consulted by the satellite animal facilities to ensure that their quarantine practices are suitable for their application or circumstances.
- A description of the quarantine process for wild-caught animals should be included in the animal care and husbandry SOP for the satellite facility.

## 6. Animal Health Surveillance

- In animal facilities where large numbers of animals are being housed in high-density housing conditions there should be a sentinel animal health surveillance program developed by or in consultation with the AV.
- In all animal facilities, personnel trained to recognize signs of illness, injury, or abnormal behavior should observe animals at least once a day including weekends and holidays.
- In all animal facilities, unexpected animal deaths, or signs of illness, injury or abnormal behavior in animals must be promptly reported (i.e. [clinical call form](#)) to the AV, or designee.

## 7. Procurement and Screening of Biologics

- All biologics administered to animals should be free of contamination. Examples of biologics include monoclonal or polyclonal antibodies, serum or serum-derived proteins, and cell lines or tissue transplants. Examples of contaminants include endotoxins, viruses, bacteria, and fungi or protozoa.
- Procurement of custom (i.e., not off-the-shelf) antibodies from a vendor requires IACUC review and approval if the antibodies were produced using vertebrate animals (e.g. mice, rabbits, or goats) immunized with antigen(s) provided by or at the request of the investigator. This review should be performed by the IACUC at the institution or organization producing the antibodies (i.e. the performance site). The PI should contact the vendor to confirm that its IACUC has reviewed and approved the antibody production method(s). Alternatively, the PI should contact the UCSB IACUC who will perform this verification. The purchase of off-the-shelf antibodies does not require IACUC approval.
- Rodent-derived biologics, or materials passed *in vivo* through rodent species or *in vitro* using rodent serum should be tested for rodent pathogen contamination (e.g., <https://www.idexbioanalytics.com/impact-pcr-o>). A copy of the results should be provided to the AV.

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<sup>2</sup> As per the *Guide*: “Quarantine is the separation of newly received animals from those already in the facility, in a way that prevents potential spread of contaminants, until the health and possibly the microbial status of the newly received animals have been determined.”

1. Institute for Laboratory Animal Research (ILAR). *Guide for the Care and Use of Laboratory Animals 8<sup>th</sup> Edition*. Pg. 105-113. 2011
2. ILAR. *Guidelines for the Humane Transportation of Research Animals*. Pg. 33-38. 2006
3. USDA Animal Welfare Act Regulations [9 CFR, Subchapter A, Part 3, Subpart F, Section 3.125, 3.137-140]
4. NIH Office of Laboratory Animal Welfare, FAQ: Does the PHS Policy apply to the production of custom antibodies or to the purchase of surgically modified animals?