



IACUC SOP:	SOP Animal Housing Environment for Rodents and Reptiles	
SOP#203.00	IACUC Approved: 7/17/2024	IO Approval: 7/29/2024

Purpose:

This SOP describes the Institutional Animal Care and Use Committee (IACUC) requirements for Animal Housing Environment for Rodents and Reptiles Animal Cages for animals housed at Texas A&M University-San Antonio.

1. Rodent & Reptile Housing

Rodents and Reptiles are cared for and housed in compliance with the Guide for the Care and Use of Laboratory Animals (The Guide) and the Animal Welfare Act, if applicable.

PI and animal caregivers must observe group housed rodents for fighting and separate with the approval of the principal investigator. PI should ensure that no overcrowded cages are present. Animal injuries should be reported to the AV.

2. Cage Types

Rodents

All cages must be in proper repair and free of cracks, holes, and broken wire bar tops. Students or technicians should immediately report any cage problems to your supervisor. Unless approved by IACUC, housing rodents in wire bottom cages are not allowed in the facility.

a. Shoebox cage

Rodents are generally housed in polycarbonate/polysulfone shoebox cages containing irradiated approved bedding (hard-wood chip, corncob, paper). Occasionally, rodents are housed to meet the special needs of the investigator (e.g. metabolism cages) with prior IACUC approval.

b. Microisolator Filter Top

Most cages are equipped with microisolator-filtered tops, unless otherwise specified by the protocol. If the filter material is missing, damaged, or exhibits gaps, do not use the isolator top. When removing an isolator top from a rodent cage, remove only one at a time. Isolator tops on mouse cages should only be removed underneath an animal transfer station, where one is available. Transport rodents in cages with isolator tops to prevent the spread of disease. Secure the top and wrap in opaque material if traversing in public areas.

c. Wirebar Top

There are two basic sizes of wire bar tops:

- 1) Mouse - approximate distance of 1/4" (6mm) between the bars.
- 2) Rat, hamster, and guinea pig - approximate distance of 3/8" (10mm) between the bars.

d. Cage Card Holder

An external plastic frame that holds a 3x5 inch cage identification card. Refer to SOP 202.00 on Animal Identification Cards for details.

Reptiles

a. Shoebox Enclosure

Snakes and nocturnal lizards can be housed in appropriately sized plastic shoebox (or similar) cages containing approved bedding (hard-wood chip, corncob, paper) with either a perforated lid or as part of a



rack system. Ensure cage tops are secure to prevent animal escape. Occasionally, reptiles are housed to meet the special needs of the experiment (e.g. respirometer) with prior IACUC approval.

b. Screen Enclosure

Reptiles may be maintained in appropriately sized screen enclosures containing approved bedding (hardwood chip, corncob, paper). The free ventilation associated with these enclosures is preferable for many arboreal or xeric species. The enclosure and substrate may be sprayed daily with water if the animals require a more humid environment.

c. “Kritter Keeper” Style Clear Plastic Enclosure.

Commercially available housing comprised of clear plastic bottom and a plastic mesh lid. These may be used for both terrestrial and semi-aquatic applications. These enclosures are lightweight and durable but not appropriate for animals that require a basking lamp due to the plastic lid.

d. Aquarium or Plastic Tub with Screen Top.

Commercially available glass aquaria or plastic tubs with a screen lid may be used in a variety of applications, including terrestrial, aquatic, or semi-aquatic enclosure environments. If the screen top is heat-resistant, it can also be used in concert with a basking lamp. Light cycles should be set based upon species. In the case of use with reptile or amphibian, screens with perforated lids must be securely fastened to prevent escape.

e. Cage Card Holder

Each cage must have an identification card according to requirements of SOP 202.00.

3. Feed/ Water/ Enrichment

a. Feed

- Bags of irradiated rodent diet come with an inner plastic liner and an outer paper bag. Remove the outer paper bag prior to transporting feed to the animal room.
- Ensure that the feed in the bulk feed containers or the unopened bag has not exceeded the expiration date, which is 6 months after the milling date. If the feed is out of date, discard and obtain fresh feed. Feed must not be stored on the floor.
- Rodents are fed ad libitum. Check feed levels daily and replenish when the cage is changed, or the level is too low (less than half-full).
- Transfer unconsumed feed to clean feeders when cages are changed.
- Reptiles will be fed appropriate diets depending on their biological needs. Insectivorous reptiles will be fed appropriately sized crickets (*Acheta domestica*), mealworms (*Tenebrio molitor* or *Zophobas morio*), or waxworms (*Galleria sp.*) twice a week unless more frequent feeding is required. Snakes will be fed previously frozen rodents obtained from an approved feeder-rodent supplier. Herbivorous reptiles will be fed diets specific to their requirements outlined in individual protocols.

b. Water

Rodents are generally watered ad libitum with water bottles or restricted by protocol. Water bottles for rodents may contain filtered water, or preferred acidified RO (2.5-3.0 pH) water. If acidified RO water is to be used, PI must include an SOP on handling the acid and mixing the animal water.

Reptiles are generally watered ad libitum with potable water in bowls. Enclosures may be misted with a spray bottle depending on the humidity requirements of the particular species.



c. Special Diets

If rodents are fed special diets or given water-containing additives, the investigative staff are responsible for doing it themselves.

Affix a "SPECIAL INSTRUCTION" card to each cage of rodents receiving the special diet or water additive. The card must state what special diet or water additive is given and the investigator's name and contact number. The special diet should be specified on the card. Please reference SOP 202.00 on Cage Cards.

Adequate feed and water supplies must be provided and checked daily including weekends and holidays. PI / lab personnel will always be responsible for animal husbandry. Study personnel will check feed and water levels and record in a daily room log.

Occasionally, investigators request that food and/or water be withdrawn from rodents for a specific amount of time. The date and treatment period must be noted on an "NPO" card along with the investigator's name and contact numbers. This must be approved on the protocol.

Special diets or deviations from feeding frequency that are part of the experimental design must be outlined in the approved protocol.

d. Bedding

Irradiated hard wood chips, ground corncob, or paper (e.g. TekFresh) are used in rodent boxes. Each cage should have ½- 1 inch of bedding unless otherwise requested.

Hard wood chips (aspen), ground corncob, paper (e.g. TekFresh), or silica play sand are used in reptile enclosures. Moist sand will be used only in areas designated for reptiles to lay eggs. Each cage should have ¼ - 1 inch of bedding unless otherwise specified.

e. Enrichment

All rodent cages will have some enrichment included in the form of nestlets or shredded paper or other approved items.

Reptile bedding will be deep enough for the animal to use vertical space and feeding live insects will provide enrichment. Alternative enrichment devices will be outlined in the protocol when these options are unavailable.

4. **Animal Handling**

Prior training is required for handling live animals. Report bites and scratches promptly to IACUC. The following procedures outline the proper method of handling laboratory animals. Disinfect forceps and put on a new pair of gloves prior to handling animals and between treatment groups.

a. Mouse

Grasp the base of the tail using a pair of rubber-shod forceps or a gloved hand.

Pick up pups by the loose skin at the back of the neck or scoop up in cupped hands.

b. Rat

Grasp the base of the tail using only a gloved hand. **Note:** Grasping a rat's tail at any other point may cause the tail skin to slough off. Cupping an animal may be necessary if it is extremely obese.

Pick up pups by the loose skin at the back of the neck or scoop up in cupped hands.

c. Lizard

Lizards can be gently taken in hand with the thumb, ring finger, and pinkie finger encircling the body and the forefinger and middle finger to either side of the head in front of the forelimbs. Small lizards may be gently held between the thumb and forefinger.



d. Snake

Snakes may be gently handled for procedures with one hand supporting the snake near the head and the other supporting the body. Snakes may be moved into temporary containment using snake hook(s).

5. **Animal Husbandry**

This section describes routine husbandry practices. Immediately clean any room, cage, or accessory that is found to be excessively soiled.

a. Daily Animal Check

Observe each animal daily for the proper amount of food, water including low/leaking bottles or leaking water valves, dry bedding, presence of urine/feces in cage, and for potential health problems. Daily animal checks must be documented.

If an animal is found injured, sick, “unhealthy looking”, or dead, fill out a morbidity mortality report and notify the PI and the IACUC by using an Adverse Event Form. Daily health records must be filled out for animals undergoing surgery.

b. Equipment Changing Schedules

i) Bottles

Water bottles are changed 1-3 times per week based on type of bottle, species, number of animals in cage, animal size, and if animals are on a study that increases their water consumption. Only potable or acidified RO (2.5-3.0 pH) water can be used for animals in research.

ii) Cages

Cages are changed 1-3 times per week or as needed. Frequency is dependent upon species, number of animals in cages, animal size, and amount of urine output.

Mice on ventilated cage racks may be changed every 14 days as determined by the AV and protocol.

Rats must be changed at least weekly regardless of the type of ventilation provided.

Reptiles must be changed monthly, and spot cleaned between cage changes.

iii) Cage Components

Wirebar tops, shelf racks, and other components of the IVC are to be cleaned/disinfected monthly.

Microisolator filter tops are changed quarterly or as needed.

Reptile hide boxes and perching will be disinfected monthly.

History:

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