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* * * Personnel Information * * *

Please note: OLAC training/skill certification is required for all personnel who conduct surgical procedures, euthanasia, and/or any procedures involving the use of anesthetics. Please be sure to schedule training sessions as needed with the OLAC Training Coordinator. For additional information on training requirements please visit: https://acuc.berkeley.edu/policies/training.pdf

Principal Investigator

(Must have PI status or Exceptional PI status at UC Berkeley)

Name
EMP-FACULTY TEST

Title

Email
testAccount@berkeley.edu

Office Phone
+1 (510) 643-1234

Lab Phone

Emergency Phone
5106431234

Department
ACUC

Mail Code
94720-3804

Campus Mailing Address

Will this individual be working directly with animals on this protocol? Yes X No

If "Yes" complete the following:

What species will this person use?:

Briefly list what procedures this person will perform (a full description of procedures is asked for later).:

Describe the experience/training this person has had with this/these species and procedures.

Prior to approval, all individuals listed on an Animal Use Protocol (AUP) are required to complete the Collaborative Institutional Training Initiative (CITI) course entitled, "Investigators, Staff and Students - Basic Course" and the Occupational Health Surveillance System (OHSS). See the Training and Education and Animal Occupational Health and Safety Program (AOHSP) policies for more information.

Co-Principal Investigator(s)

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Other Personnel

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* * * Species * * *

Species to be Used

Common Name	Genus & Species	Source
Mouse, Laboratory	Mus musculus	OLAC Approved Vendors

Species to be Used

Common Name Mouse, Laboratory

Genus & Species Mus musculus

Animal Sex Both

Source OLAC Approved Vendors

Maximum number of animals for three year project period 1

Note: If breeding animals, the maximum number must include breeders plus all offspring produced.

Any strains with adverse phenotypes?

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* * * Are You Using? * * *

NOTE: Select either "yes" or "no" for each question. If you select "yes", click on the "Add" button to provide required information.

Are You Using?

NOTE: The questions below are used to identify special circumstances where:

1) Animals are used in teaching or field research;

2) Additional oversight by regulatory agencies may be required;

3) Coordination with campus compliance committees may be required; and,

4) Personnel health and safety issues need to be addressed.

5) Please include any SOPs or other supportive documents in the Attachment Section.

1. Are you using live vertebrate animals for teaching?* N

2. Collaboration with Other Investigator(s)* N

A collaboration is defined as working jointly with others or together especially in an intellectual endeavor using animals in research, testing or teaching. If there are animal transfers or changes in animal ownership between UC Berkeley PIs; and/or collaborators at other institutions such cooperation must comply with applicable ACUC policies and Guidelines on Animal Transportation. When collaborators are transferring animals between UCB and other institutions, a Memorandum of Understanding (MOU) must be in place and a Material Transfer Agreement (MTA) may be required. Contact OACU for MOU assistance.

Additional information related to animal transfers may be needed in the Husbandry and Animal Disposition sections

3. Hazardous Agent(s) in Laboratory Animals

a) Infectious Agent(s) * N

Use of BSL-2 or 3 infectious agents with animals (this includes viral vectors; human cells, tissues or bodily fluids; biological toxins; and, select agents) requires approval by the UC Berkeley Committee for Laboratory and Environmental Biosafety (CLEB) prior to ACUC approval. For guidance, please refer to the EH&S Biosafety Program web site.

b) Recombinant DNA * N

The introduction of recombinant DNA/RNA into animals and the generation of transgenic animals require approval by the UC Berkeley CLEB prior to ACUC approval. This includes viral vectors. For guidance, please refer to the EH&S Biosafety Program web site.

NOTE: If breeding animals, create a "Breeding/Genotyping" Procedure and provide additional information and justification (including specific strains and phenotypes).

c) Human Embryonic Stem Cells * N

NOTE: Use of Human Embryonic Stem Cells in animals requires approval by the UC Berkeley Stem Cell Research Oversight Committee (SCRO) and CLEB prior to ACUC approval. For guidance, please refer to the SCRO web site and the EH&S Biosafety Program web site.

1. SCRO #

2. Used In Which Species?

d) Biological Material/Animal Product(s) Not Described Above* N

NOTE: The use of biological materials in rodents must comply with the ACUC Policy on Testing Biologicals used in Laboratory Rodents. This includes the use of Risk Group 1 and BSL 1 agents. The use of human cells, tissues or bodily fluids requires approval by the UC Berkeley Committee for Laboratory and Environmental Biosafety (CLEB) prior to ACUC approval. For guidance, please refer to the EH&S Biosafety Program web site.

e) Toxic Agent(s) * N

This includes the use of carcinogens, reproductive hazards, and/or antineoplastic agents in laboratory animals. Standard Operating Procedures (SOPs) must be in place. For guidance, on writing SOPs for these agents please contact an EH&S biosafety officer or refer to the EH&S SOP web site. Include the SOPs in the Attachment Section of this AUP.

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to the EH&S SOP web site. Include the SOPs in the Attachment Section of this AUP.

f) Controlled Substance(s) * N

NOTE: The Principal Investigator and any individuals using controlled substances in animals must be registered with EH&S prior using these agents. For guidance, please refer to the EH&S Controlled Substance Program web site.

g) Radiological Agent(s) * N

NOTE: Use of radiological agents in animals, or radiation producing devices requires an approved Radiation Use Authorization (RUA) be in place prior to ACUC approval. For further guidance, please refer to the EH&S Radiation Safety Programs web site.

h. Laser(s) * N

NOTE: Use of lasers on animals requires an approved Laser Use Authorization (LUA) be in place prior to ACUC approval. For further guidance, please refer to the Laser Safety Program web site.

4. Non-pharmaceutical Grade Compounds * N

NOTE: Federal regulations require the use of pharmaceutical grade compounds in animals used for research and teaching unless those compounds are not available or are otherwise inappropriate for the aims of the proposed animal use. Please refer to the ACUC Policy on Use of Non-Pharmaceutical Grade Compounds

5. Field Study or Wildlife Study* N

NOTE: Additional procedure-based information for field studies is requested under the Protocol Information section of the Protocol.

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* * * Rationale * * *

Rationale

As you answer the questions in this section, please use language that can be understood by a layperson. r Avoid overly technical terms and define abbreviations.

1. STUDY OBJECTIVES

a) What is the overall aim and purpose of this research or teaching demonstration/exercise?*

required information here

b) How will the information gained be important to human or animal health, the advancement of knowledge, or the good of society?*

required information here

2. RATIONALE FOR USE OF ANIMALS

a) Why do you need to use animals? Discuss why non-vertebrate alternatives (e.g., tissue culture, invertebrate animal models, computer simulations) are inappropriate or implausible to answer your scientific questions or meet your educational goals.*

required information here

b) Why have you selected these particular species (and not others)?*

required information here

3. JUSTIFICATION OF ANIMAL NUMBERS

For complete instructions and guidance on how to complete the section on justification of animal numbers, please refer to the ACUC guideline on Justification for Animal Numbers found on the ACUC website.

a) How did you determine that the numbers provided in the Species section of this protocol are the smallest number of animals needed to fulfill the study goals over a three-year period? Please use the table below to graphically describe for reviewers how you arrived at your animal numbers. Regardless of species, please briefly describe the Experiments included in your protocol and complete the table below, FOR THE THREE-YEAR PERIOD OF THE PROTOCOL. Note: Experiments may consist of multiple procedures. For breeding colonies, enter these as a line item, with the total consisting of breeding stock plus offspring NOT used in any studies.

Animal Groups for Procedures

Experiment	Maximum number of groups (Control)	Maximum number of groups (Experimental)	Maximum number of animals per group	Maximum number of replications needed	Total number of animals needed
required information here	required information here	required information here	required information here	required information here	required information here

b) Please justify the proposed number of animals being used:

required information here

c) Method Used to Determine Group Size (check all that apply):

X Statistical estimates; please describe the power analysis and all other statical analyses used:

test1

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This is a pilot study, as similarly established studies do not exist. The proposed study will use a small number of animals to determine the feasibility of a larger study.

Studies cited in the literature; please provide the literature citations here or as an attachment:

Previous experience by this PI. Please describe and cite references here or as an attachment.

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* * * Procedures * * *

Blood Collection in Anesthetized Mice (Pre-filled)

Procedure Category	Rodent Blood and Tissue Collection Procedures		
Procedure Type:	Blood Collection in Anesthetized Mice (Pre-filled)	**Procedure Title:**	Blood Collection in Anesthetized Mice
Species:	Mouse, Laboratory		
Pain/Distress Category:			D
		Was a veterinarian consulted (for D or E studies)?:	Y
Use Location:	UC Berkeley campus	**Building(s)/Room(s):**	required information here

* * * Procedure Description * * *

Procedure Description

Instructional Text (do not edit or delete):

Please make sure that your purpose for performing this procedure is fully described below in the section: "How does this procedure fit into or address your overall research goals?"

General blood withdrawal guidelines: Mice have an average circulating blood volume of 72 ml/kg (0.072 ml/g x 25 g mouse = 1.8 ml circulating blood volume for a 25 g adult mouse). 7.5% of the circulating blood volume can be safely removed with a recovery period of 7 days. If blood must be drawn more frequently, it may be divided into several draws, but the total amount withdrawn should not exceed 7.5% of the circulating blood volume per week. If collecting a single sample, you can take up to 10% of circulating blood volume if you allow a 2-week recovery period.

Please check the box and click on Delete for those blood collection methods listed below that you will NOT be using.

Procedural Steps

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Step Name	Step Description
Lateral tail vein or tail artery	This blood collection technique is typically done in a properly restrained conscious animal; anesthesia should only be used if it is a necessary part of the study protocol (i.e., blood collection during imaging, etc.). 1. Anesthetize mouse per regimen selected in the Anesthetic Regimen tab. 2. Warm tail to dilate vessels (heat lamp, warm water, or warm compress). 3. Moisten site with alcohol. 4. Using a 25-27g needle on a 0.5 - 1cc syringe, insert the needle, bevel facing up into vessel. Gently pull back on the plunger to avoid collapsing the blood vessel. 5. Alternatively, puncture the blood vessel with the needle and allow the blood to drip into a microcentrifuge tube or collect via capillary action into a blood collection tube. 6. Remove needle and apply pressure to puncture site with gauze pad until bleeding stops. **Potential Adverse Events:** Excessive bleeding, hematoma formation, tissue trauma, or infection.

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Facial vein (submandibular)	This blood collection technique is typically done in a properly restrained conscious animal; anesthesia should only be used if it is a necessary part of the study protocol (i.e., blood collection during imaging, etc.). 1. Anesthetize mouse per regimen selected in the Anesthetic Regimen tab. 2. Puncture facial vein, located slightly behind the mandible, but in front of the ear canal near the bald spot or "dimple", in a swift, lancing motion with a 4.0-5.5mm lancet or tip of a 19-25g needle; blood will flow immediately if in the correct location. 3. Collect sample into a pipette via capillary action or allow blood to drip into a microcentrifuge or blood collection tube. 4. Apply pressure with a gauze pad until bleeding stops. **Potential Adverse Events:** Depth of the puncture must be controlled or excessive bleeding, entry into the ear canal, entry into the oral cavity, hematoma formation, trauma to the underlying muscles, or infection can occur. **Note: Hemostasis may take longer than other methods of blood collection.**

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Lateral saphenous	This blood collection technique is typically done in a properly restrained conscious animal; anesthesia should only be used if it is a necessary part of the study protocol (i.e., blood collection during imaging, etc.). 1. Anesthetize mouse per regimen selected in the Anesthetic Regimen tab. 2. Extend hind limb, applying gentle pressure above the knee joint or use a small tourniquet to hold off the vessel. 3. Apply sterile ophthalmic ointment to allow the blood to pool at the site, and part hair to visualize vessel. 4. Puncture vessel with 25g needle in a swift, lancing motion; blood will flow from site and pool on the ointment. 5. Collect sample into a pipette via capillary action or allow blood to drop into a microcentrifuge or blood collection tube. 6. Release downward pressure on leg and apply gentle pressure to venipuncture site with a gauze pad until bleeding stops. 7. Removal of the scab will enable serial sampling. **Potential Adverse Events:** Excessive bleeding, hematoma formation, tissue trauma, or infection.

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Cardiac puncture	1. Anesthetize mouse per regimen selected in the Anesthetic Regimen tab and check toe pinch reflex before proceeding. 2. Lie animal on its back and insert a 25-30g needle on a 1 ml syringe just behind the xiphoid cartilage, at 10-30° from the horizontal axis of the sternum, slightly lateral to the midline (animal's left side). 3. Withdraw blood slowly. 4. Euthanize mouse following blood collection per protocol-approved method described in the Animal Disposition section. **Potential Adverse Events:** If the mouse wakes up during procedure, they will immediately be euthanized. **Note: For terminal blood draws (i.e., cardiac puncture), there is no volume limit. This is a terminal procedure under deep general anesthesia only!**

How does this procedure fit into or address your overall research goals?

required information here

Please list any clinical effects or changes from the normal health and behavior of an untreated animal which may occur as a result of this procedure.

Please see "Potential Adverse Events" listed under the Procedure Description.

Describe post procedure monitoring that will be performed. Post-anesthetic monitoring must be described under Anesthetic Regimen below.

Hemostasis will be verified, and mice will be monitored until they are fully awake (e.g., upright and ambulatory), before returning any animal to their housing room. Mice will be examined immediately following blood collection, as well as the following day, for general appearance and activity level, as well as potential adverse events based on blood collection method (see above). Cardiac punctures are ALWAYS a terminal procedure if performed.

What criteria will be used to determine if animals exhibiting clinical or behavioral changes should be euthanized?

Blood collection amounts and frequency will not exceed stated guidelines. Mice undergoing cardiac puncture will be euthanized immediately afterwards. If moribund, or if any other abnormal signs are noted, an OLAC

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be euthanized immediately afterwards. If moribund, or if any other abnormal signs are noted, an OLAC veterinarian will be contacted or the mouse will be euthanized immediately.

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* * * Anesthetic Regimen * * *

X Respiratory Rate
Heart Rate
Body Temperature
Blood Pressure
Corneal/Palpebral Reflex
X Pedal Reflex
Capillary Refill
PO2
ETCO2
X Other (Describe)

Skin color or mucous membrane color

Describe recordkeeping methods during anesthesia. For guidance, please refer the ACUC Recordkeeping Guidelines for Surgical Procedures on Laboratory Animals.

Stable respiratory rate, lack of pedal reflex, and skin color or mucous membrane color will be monitored during anesthesia and recorded initially, as well as every fifteen minutes if necessary, until the animal has fully recovered. Anesthetic records will be kept in the lab notebook.

Anesthetic Agents

Agent Name	Dosage (in mg/kg if possible) and volume	Route
Isoflurane	Induce 3-4%; Maintain 1-2%	Inhalation (IN)
Ketamine hydrochloride	80-100 mg/kg	Intraperitoneal (IP)
Xylazine	5-10 mg/kg	Intraperitoneal (IP)
Isoflurane via drop jar method	1-2 drops to effect	Inhalation (IN)

Other premedications not already listed above

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Agent Name	Dosage (in mg/kg if possible) and volume	Route	Describe timing, frequency & duration of administration
Ocular Lubricant	NA	topical (Topical)	A thin strip of ointment is applied to each eye upon induction of anesthesia.

* * * Other Agents Utilized * * *

If you are proposing to use non-pharmaceutical grade compounds OR hazardous or non-hazardous agents, you must complete the appropriate questions on the "Are You Using" section of the protocol.

Note: Pharmaceutical grade compounds must be used in animals unless those compounds are not available or are otherwise inappropriate for the aims of the proposed animal use. For guidance, please refer to the ACUC policy on Use of Non-pharmaceutical Grade Compounds.

Surgical Procedure

Procedure Type:	Surgical Procedure	**Procedure Title:**	required information here
Species:	Mouse, Laboratory		
Pain/Distress Category:			D
		Was a veterinarian consulted (for D or E studies)?:	Y
Use Location:	UC Berkeley campus	**Building(s)/Room(s):**	required information here

Surgery Info

For guidance, please refer to the ACUC Guidelines for Anesthesia and Analgesia in Laboratory Animals, Guidelines for Surgical Procedures, Recordkeeping Guidelines for Surgical Procedures on Laboratory Animals, and Multiple Partial Ovariectomies on Xenopus (MPOX) Policy.

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Specific room number where surgery is performed: required information here

Surgery Type: Terminal

MULTIPLE MAJOR SURVIVAL SURGERY: The Guide defines major survival surgery as a surgical procedure that penetrates and exposes a body cavity, produces substantial impairment of physical or physiologic functions, or involves extensive tissue dissection or transection. The USDA defines a major operative procedure as any surgical intervention that penetrates and exposes a body cavity or any procedure that produces permanent impairment of physical or physiological functions.

If a major surgical procedure is performed on an animal prior to obtaining it (e.g., surgerized animals obtained from a vendor), and a subsequent major survival surgical procedure is performed on the same animal, this is considered Multiple Major Survival Surgery.

Will this project include Multiple Major Survival Surgery (MMSS)? N

PLEASE NOTE: If multiple major survival procedures are to be performed, you will be asked for specific justification in Procedure Relationships section of this form.

Number of animals that will undergo MMSS per year:

---

* * * Procedure Description * * *

Procedure Description

required information here

How does this procedure fit into or address your overall research goals?

required information here

Please list any clinical effects or changes from the normal health and behavior of an untreated animal which may occur as a result of this procedure.

required information here

Describe post procedure monitoring that will be performed. Post-anesthetic monitoring must be described under Anesthetic Regimen below.

required information here

What criteria will be used to determine if animals exhibiting clinical or behavioral changes should be euthanized?

required information here

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* * * Surgeon Details * * *

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* * * Anesthetic Regimen * * *

Respiratory Rate
Heart Rate
Body Temperature
Blood Pressure
Corneal/Palpebral Reflex
Pedal Reflex
Capillary Refill
PO2
ETCO2
Other (Describe)

Describe recordkeeping methods during anesthesia. For guidance, please refer the ACUC Recordkeeping Guidelines for Surgical Procedures on Laboratory Animals.

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* * * Peri procedure Care/Analgesics * * *

Describe what parameters will be monitored during the procedure to assure proper analgesia (e.g., respiratory rate, corneal/palpebral reflex, pedal reflex, etc.):

Post-procedure Monitoring

Recovery Location Building Name

Room Number

Responsible Personnel

Parameters Monitored (e.g., appetite, body weight, body condition score, posture, etc.)

Monitoring Duration

Monitoring Frequency

Describe what actions will be taken if parameters monitored fall outside normal ranges:

Describe any non-pharmaceutical support provided during recovery (e.g., heating pads, soft/palatable foods, food provided on cage floor, etc.):

Describe record keeping/documentation methods for post-procedure monitoring:

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* * * Other Agents Utilized * * *

If you are proposing to use non-pharmaceutical grade compounds OR hazardous or non-hazardous agents, you must complete the appropriate questions on the "Are You Using" section of the protocol.

Note: Pharmaceutical grade compounds must be used in animals unless those compounds are not available or are otherwise inappropriate for the aims of the proposed animal use. For guidance, please refer to the ACUC policy on Use of Non-pharmaceutical Grade Compounds.

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* * * Alternative Search * * *

For Pain/Distress Categories D or E

For any procedure that is likely to cause more than slight or momentary pain or distress, a literature search is required to determine if other methods are available that could reduce or eliminate pain or distress experienced by the animal. Instructions and examples of this literature search, appropriate databases to use, and helpful keywords can be found in the guidelines on Literature Searches for Alternatives on the ACUC website.

Search Data

Search Date	Search Range	Keywords	Databases Searched
05/22/2020	1971-2020	required information here	ALTBIB

Describe the search strategies used to conduct your search.

required information here

Provide the number of hits and summarize the findings of your search results.

required information here

I believe there is no alternative to further reduce, replace or refine this potentially painful/distressful procedure. Based on the following references and experience, this animal model is the most appropriate for conducting my research.

Specific Relevant Citations

Relevant citations must be listed here or provided as an attachment.

For category E procedures, explain why drugs or other ameliorative treatments cannot be used to fully alleviate pain/distress. Include the number of animals per year.

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* * * Procedure Relationships * * *

Procedure Relationships

Please describe the sequence and timing of the manipulations:

If more than one surgery or procedure will be performed on some or all animals used under this protocol, describe the sequence and timing of these manipulations. Flow charts may be helpful and can be attached to the protocol.

If more than one procedure is listed in the protocol, required information here

Procedures done on a single animal:

Please indicate how many and which procedures a single animal will go through. If applicable, please identify the strain/genotype/breed of animals that will be used in each procedure. Charts are highly recommended for clarity.

If more than one procedure is listed in the protocol, required information here

Multiple Major Survival Surgery Description:

Describe why it is necessary to perform multiple major surgical procedures on the same animal. Indicate the length of time between surgeries.

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* * * Husbandry * * *

Proposed Housing Location

OLAC Vivarium

X	OLAC Care Building Name	required information here
X	PI Care Building/Room	if applicable

Other Location

X	OLAC Care Building Name	if applicable
X	PI Care Building/Room	if applicable

Animal Transportation — None

Please check how animals will be transported between facilities, laboratories or institutions (e.g., hand carried, vehicular, etc.), describe the methods and containment measures to be utilized. Transportation of animals must conform to the ACUC Animal Transportation Guidelines.

X Between rooms within the same building on the UC Berkeley campus
if applicable; required information here

X Between buildings on the UC Berkeley campus
if applicable, required information here

X Between institutions (i.e. do not include original order delivery to UCB)
if applicable, required information here

FIELD STUDIES: If animals (live or dead) will be transported to or from the field, describe how they will be transported and measures to be taken to avoid potential disease transmission to researchers and other animals. Transportation of animals must conform to the ACUC Animal Transportation Guidelines.

if applicable, required information here

Non-Standard Housing Requirements — None

Please check and describe all non-standard housing requirements that apply. Provide justification for each. For guidance, please refer to ACUC's Guidance on Exceptions Regarding Housing or Husbandry of Laboratory Animals, Aquatic Frog Housing Density, Guidelines for Investigators Who Manage Mouse Breeding Programs, and Rat Housing Guidelines.

Non-Standard Housing Requirements

Species	Non-standard housing type	Description and justification
Mouse, Laboratory	Cage/Pen Size	if applicable, required information here

Exceptions/Exemptions — None

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Please check and describe any non-standard environmental requirements, diets, husbandry equipment or animal care. Include which species are affected. For guidance, please refer to ACUC's Guidance on Exceptions Regarding Housing or Husbandry of Laboratory Animals and Fasting Animals, Special/Regulated Diets/Water/Housing Policy, Physical Restraint of Unanesthetized Animals.

Non-Standard Lighting Cycles

Species	Describe and provide justification
Mouse, Laboratory	if applicable, required information here

Non-Standard Housing Temperature Ranges

Species	Describe and provide justification
Mouse, Laboratory	if applicable, required information here

Telemetry or Tether Devices

Species	Describe and provide justification
Mouse, Laboratory	if applicable, required information here

Individually Housed

Species	Describe and provide justification
Mouse, Laboratory	if applicable, required information here

Exemption from Standard Enrichment

Species	Describe and provide justification
Mouse, Laboratory	if applicable, required information here

Other

Species	Describe and provide justification
Mouse, Laboratory	if applicable, required information here

Food Restriction

Species	Length of restriction	Reason for restriction
Mouse, Laboratory	if applicable, required information here	if applicable, required information here

Fluid Restriction

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Species	Length of restriction	Reason for restriction
Mouse, Laboratory	if applicable, required information here	if applicable, required information here

Prolonged Restraint (>15 min)

Species	Type of restraint	acclimation to restraint	duration of restraint
Mouse, Laboratory	Both	required information here	required information here
Mouse, Laboratory	Commercial	required information here	required information here
Mouse, Laboratory	Manual	required information here	required information here

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* * * Animal Disposition * * *

NOTE: For ACUC-approved descriptions of common euthanasia methods that you can copy into your protocol, please go the PI Resources section of the OLAC website.

Please consult the ACUC Euthanasia Guidelines. Physical methods of euthanasia must be performed under anesthesia. Following euthanasia and prior to carcass disposal, an additional physical means of ensuring euthanasia must be performed. These physical methods vary by species but may include cervical dislocation for small rodents, bilateral thoracotomy, decapitation, exsanguination, double pithing for amphibians and reptiles, freezing for small ectotherms, or another AVMA-approved method. These must occur after the animal has been rendered non-responsive to noxious stimuli by the primary euthanasia agent.

If some animals under this AUP will not be euthanized but may be transferred to another PI or adopted out as a pet, you must still complete the euthanasia table and identify that for the specie/s under method of euthanasia that there is none (i.e. no euthanasia of some animals). In which case, you must complete the additional table below regarding Change in Ownership of said animal/s to describe the disposition of those animals.

Euthanasia

Species	Method of Euthanasia: Primary	Route of Admin	Dosage (in mg/kg if possible) and volume	Site	Building Name	Room Number	Method of Euthanasia: Secondary	Briefly describe the euthanasia procedure
Mouse, Laboratory	Carbon Dioxide	Inhalation (IN)	if applicable, required information here	UC Berkeley campus	NAF	required information	Cervical Dislocation	required information here

Provide specific details for carcass disposal.

required information here

Conditional on veterinary approval, animals may be eligible for changes in ownership such as adoption or transfer to another PI. Please consult the ACUC href = "Change in Ownership Policy"Change in Ownership Policy and/or the href = "Adoption Policy" Adoption Policy for details.

Change of Ownership

Species	Method of changing ownership	Brief Description
Mouse, Laboratory	Other	if applicable, required information here

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* * * Certifications * * *

Certification

As Principal Investigator, I have ultimate responsibility for this study, the protection of animal subjects, and strict adherence by all research personnel to federal regulations, state statutes, and University of California (UC) Office of the President (UCOP) and UC Berkeley (UCB) policies pertaining to animal use in research and teaching.

I hereby assure the following:

1) As per the ACUC's Policy and Procedures on Protocol Review, any changes in the care and use of animals involved in this protocol will be promptly submitted to the ACUC for review. Such changes will not be implemented until approval is obtained from the ACUC. I understand that the ACUC and Institutional Official (IO) have the authority to suspend a previously approved protocol.

2) Individuals listed on this protocol are trained and/or certified to conduct procedures involving animals outlined under this proposal as per the ACUC's Training and Education Policy.

3) As per the ACUC's Training and Education Policy, all individuals listed on this protocol have completed the required Collaborative Institutional Training Initiative (CITI) course, "Working with the IACUC (All animal users)"

4) As per the ACUC's Animal Occupational Health and Safety Program (AOHSP), all individuals working on this protocol have enrolled in the AOHSP by submitting an Occupational Health Surveillance System (OHSS) Risk Assessment. I understand that further participation in the AOHSP may be required by the Occupational Health Physician or if the individual is working with specific species or research materials.

5) The research proposed herein is not unnecessarily duplicative of previous reported research.

6) I ascribe to all of the responsibilities outlined in the ACUC's Principal Investigator Responsibilities policy.

X As Principal Investigator, I have read and agree to abide by the above obligations.

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