|  |
| --- |
| **FOR OFFICE USE ONLY** |
| Protocol # Enter here | Date received: Enter here | [ ]  Animal Welfare Act covered species |
| Final Approval Date: Enter here | Expiration Date: Enter here | [ ] IACUC Approved Exception |
| Comments Enter here |

**University of Mississippi Animal Care & Use Protocol**

# Section 1 - Basics

# Part A. Administrative Data (required section)

1. **Protocol Title** Enter here
2. **Protocol Type Select Submission type Select** Renewal for protocol # (if applicable): Enter here
3. Additional sections completed: [ ]  [Section 1 - Basics](#_Section_1_-) **(REQUIRED)** [ ]  [Section 2 - Surgery](#_Section_2_–) [ ]  [Section 3 - Breeding](#_Section_3_–)

[ ]  [Section 4 - Field Study](#_Section_4_–) [ ]  [Section 5 - Additional Personnel](#_Section_6_–) (**REQUIRED**)

1. Provide the following information for the **Principal Investigator**:
2. **Name:** Enter here  **UM Email:** Enter here
3. Work Phone Number: Enter here Emergency Phone Number:Enter here

**Note: PIs MUST provide their emergency contact number and MUST provide at least 1 additional emergency contact in the “**[**Additional Personnel**](#_Section_6_–)**” section.**

1. Who will serve as interim PI when the PI is unable to respond/communicate immediately to animal related matters? Enter here

If N/A., explain (e.g. no animal work will be done in the PI’s absence): Enter here

**Note: PIs must assign a faculty or staff member to serve as interim PI during an absence that would prevent the PI from responding immediately to animal related matters. The interim PI must be local, meet the criteria for Principal Investigators, approved by the IACUC, named as personnel on this protocol, and possess knowledge and full understanding of their responsibilities as interim PI.**

1. Enrolled in [Occupational Health Program](https://www.research.olemiss.edu/iacuc/mandatory-training): Select
2. Procedures performed on animals as part of this proposal:

[ ] Basic animal handling [ ]  Husbandry [ ]  Surgery [ ]  Drug administration [ ]  Euthanasia [ ]  Other; explain: Enter here

1. Describe specific animal related experience ensuring this individual is qualified to perform procedures listed in this protocol. Please provide specific information including experience performing the procedures listed in this protocol and training. For personnel without prior experience, state how the person will be trained on the specific procedures listed and who will do the training along with the trainer’s qualifications and how proficiency will be assessed. Enter here
2. Have viewed the following IACUC CITI online training modules and successfully passed the corresponding quizzes (\*required):

[ ] \*Working with the IACUC [ ]  \*Species specific module and/or Wildlife Research

[ ]  \*Laboratory Chemical Safety [ ]  \*Animal Biosafety [ ]  Aseptic Surgery

[ ]  Minimizing Pain and Distress

# Part B. Animal Data (required section)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Species** | **Sex** | **Strain** | **Total # of animals** | **Housing site** | **Use area/Other housing site (include room numbers)** |
| EXAMPLE: Mouse | Male/Female | CD-1 | 200 | TCRC B000 | Faser 000 |
| Enter here | Choose an item. | Enter here | Enter here | Enter here | Enter here |
| Enter here | Choose an item. | Enter here | Enter here | Enter here | Enter here |
| Enter here | Choose an item. | Enter here | Enter here | Enter here | Enter here |
| Enter here | Choose an item. | Enter here | Enter here | Enter here | Enter here |

**\*=hover over WORD for additional information**

1. Vendor or source\* of animals :Select If other, describe: Enter here

**Note: Acceptance of all rodents and rabbits into the LAR vivarium is contingent upon acceptable health surveillance information provided by the source institution to prevent inadvertent spread of infectious agents to other animals.**

1. Pain/Distress Classification:
2. Indicate the number of animals used in each classification. If more than one classification applies to a single animal, the animal should be counted in the higher classification. See [UM Pain and Distress Categories Guidelines](https://www.research.olemiss.edu/iacuc/guidance/protocols/pd). **\*Hover mouse over classification letter for more information\***

[B](https://www.research.olemiss.edu/iacuc/guidance/protocols/pd) Enter here [C](https://www.research.olemiss.edu/iacuc/guidance/protocols/pd) Enter here [D](https://www.research.olemiss.edu/iacuc/guidance/protocols/pd) Enter here [E](https://www.research.olemiss.edu/iacuc/guidance/protocols/pd) Enter here

1. If any animals are included in pain/distress classification E, provide scientific justification for withholding pain/distress relief or state methods used to determine that pain and/or distress relief would interfere with test results. *Stating that pain relief may interfere with test results is not adequate.* All procedures with classification E will be reported annually to the USDA. Enter here[ ] N/A
2. [ ]  I agree to track and report annually the number of animals in my possession, acquired or produced, or used as part of this proposal in each of the respective pain/distress classifications (including non-targeted animals euthanized at weaning).
3. Will animals be held in any use area (other than housing site) for greater than 12 hours?

 [ ]  Yes [ ]  No Details if **Yes**: Enter here

## Housing Type:

[ ]  Standard caging, pens, or aquaria

[ ]  Immunodeficient or Biohazard rodent housing requiring sterile caging, food, and water supplies.

[ ] Rodent wire bottom cages Justification (required): Enter here

[ ]  Other, describe: Enter here

## Describe any other special husbandry requirements for which:

[ ]  Housing (i.e., single housing, no environmental enrichment) Enter here

[ ]  Water/feed (i.e., medicated feed, food restriction) Enter here

[ ]  Waste disposal (i.e., requires autoclaving, decontamination, biohazard labeling) Enter here

[ ]  Other Enter here

## [ ]  Yes [ ]  NoWill personnel other than Laboratory Animal Resources staff will be providing husbandry care to the animals?

## [ ]  **By checking this box, the PI makes the following assurances:**

1. All animals will be observed daily (including weekends and holidays).
2. Husbandry procedures will be documented.
3. All personnel caring for the animals have been appropriately trained for the species maintained.
4. Standard operating procedures are available for animal husbandry related procedures and have been IACUC approved.
5. All personnel caring for the animals are named on protocol(s) and have completed the appropriate occupational health requirements, online training, and proficiency assessment.
6. **(Required) Location of SOPs and husbandry/room logs:** Enter here

# Part C. Study Objective (required section)

Briefly explain in language understandable to a layperson the aim of the study and why the study is important to human or animal health, the advancement of knowledge, the good of society or educational/training benefits. (Do not give details of experimental procedures here.)

Enter here

# Part D. Rationale for Animal Use (required section)

1. Explain your rationale\* for animal use, appropriateness of the selected species\*, and (if applicable) justify\* establishing a breeding colony. Enter here
2. [Justify](https://www.research.olemiss.edu/iacuc/guidance/protocols/anj) the number of animals proposed for use.

 Enter here

# Part E. Instruments and Supplies

## Expand and complete the applicable sections below if any instruments\* and/or supplies are used to enter or are administered into areas of animals which are normally considered sterile.

Instruments & supplies are (check applicable boxes):

[ ] clean but not sterile and will only be used for non-recovery procedures.

[ ] acquired from commercial source(s) in a sterile form.

[ ] autoclaved.

[ ]  passed through a 0.2  filter prior to being administered to animals.

[ ] chemically sterilized. (see [FDA guidelines](https://www.fda.gov/medical-devices/reprocessing-reusable-medical-devices-information-manufacturers/fda-cleared-sterilants-and-high-level-disinfectants-general-claims-processing-reusable-medical-and)) Agent used: Enter here Contact time: Enter here hours

[ ]  instruments &/or supplies will be rinsed with sterile Enter here prior to being used on animals.

[ ]  other: Enter here

# Part F. Methodology (required section)

Describe all activities\* involving living animals. Details of survival surgical approaches should be provided in Section 2. The description should enable the IACUC to understand the experimental process beginning from the animal’s acquisition until the endpoint of the study.

 Enter here

# Part G. General Information

## Expand and complete if unanesthetized animals will be restrained by hand or mechanically, describe: [ ]  N/A

1. Method of restraint: Enter here Duration of restraint: Enter here Frequency of restraint: Enter here
2. Animal acclimation or training with respect to restraint device: Enter here
3. Prolonged (>30 minutes) restraint justification: Enter here

## Expand and complete if food or water will be restricted for purposes other than in preparation for anesthesia: [ ]  N/A

1. Food Restriction? [ ]  Yes [ ]  No
2. Water Restriction? [ ]  Yes [ ]  No
3. Purpose of restriction: Enter here
4. Duration of restriction: Enter here
5. Frequency of restriction: Enter here
6. Location of monitoring records\* Enter here

## Expand and complete if the animals proposed for use will have been used in previous experimental or teaching procedures: [ ]  N/A

1. Briefly describe previous activities Enter here

## Expand and complete if blood will be collected [ ]  N/A

 ([Click Here](https://research.olemiss.edu/sites/default/files/Blood%20Collection%20in%20Mice%20and%20Rats%202022.pdf) to view Guidelines on Blood Collection)

 Describe: Enter here.

1. Route/Site of collection: Enter here Total number of collections per animal: Enter here
2. Frequency of collection: Enter here Maximum volume collected per time point: Enter here
3. Will anesthesia be used during blood collection? [ ]  Yes [ ]  No

## Expand and complete if biological samples other than blood will be taken from living animals: [ ]  N/A

1. Sample type: Enter here
2. Frequency of collection: Enter here

## Expand and complete if animals will be immunized\*: [ ]  N/A

1. Name of adjuvant(s): Enter here
2. If using Freund's Complete Adjuvant, describe why an alternative adjuvant cannot be used. Enter here
3. Injection site: Enter here
4. Number of sites: Enter here
5. Volume of injection per site: Enter here
6. Frequency of injection: Enter here

## Expand and complete if living animals are to be transported as part of this project: [ ]  N/A

1. Describe transportation\* methods: Enter here
2. Describe provisions for ensuring animals are protected from environmental extremes: Enter here
3. Describe any food and/or water that will be provided during transit: Enter here
4. What is the approximate length of time in transit? Enter here
5. What is the transport destination? Enter here
6. Provide a brief description of the animal enclosures and vehicles, as applicable: Enter here

## Expand and complete if animals will be subjected to periods of forced exercise (swimming, treadmills, etc.): [ ]  N/A

1. Proposed methods: Enter here
2. Will animals be preconditioned to the activity? [ ]  Yes [ ]  No
3. Length of time animal will be subjected to activity: Enter here
4. Frequency of exercise periods: Enter here

# ****Part H. Drugs and Compounds****

## If planning to administer drugs or medications, expand and complete the appropriate sections of the table and #2 below. If additional space is needed attach a separate table to this application. Enter here.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Generic Drug Name** | **Class** | **Dose (mg/kg) and Max Volume Administered** | **Route & Site Administered** | **Frequency of Administration** | **Purpose** |
| EXAMPLE: Meloxicam | NA | 5mg/kg 0.5 mL  | Subcutaneous injection in loose skin at the base of the neck. | Once every 24 hours for 1-3 days | Analgesia |
| Enter here | Select | Enter here | Enter here | Enter here | Select |
| Enter here | Select | Enter here | Enter here | Enter here | Select |
| Enter here | Select | Enter here | Enter here | Enter here | Select |
| Enter here | Select | Enter here | Enter here | Enter here | Select |
| Enter here | Select | Enter here | Enter here | Enter here | Select |

1. Use of non-pharmaceutical grade drugs, substances, or compounds. See [UM Guidelines for the Use of Non-Pharmaceutical Grade Compounds](https://www.research.olemiss.edu/sites/default/files/Non-pharmaceutical%20grade%20compounds%20guidelines.pdf) and [Guideline for the Use of Novel Compounds in Animals](https://www.research.olemiss.edu/sites/default/files/UM%20Novel%20Compound%20Guideline.pdf).

***Note: Pharmaceutical or USP grade substances are approved by the FDA or have a chemical purity standard established by the U.S. Pharmacopeia.***

1. Will all chemicals and substances used in animals be of pharmaceutical grade? [ ]  Yes [ ]  No
2. If ***NO***, list compounds for which **a pharmaceutical grade is not available.** Please include information on the source of the compounds (e.g., will be created in the PI’s laboratory, provided by a company, etc.): Enter here
3. If ***NO***, please provide a description (if known) of the grade/purity being proposed, the formulation of the final product, compatibility of components, and issues such as pyrogenicity, stability, pH, osmolality, toxicity, pharmacokinetics, and physiological compatibility. Enter here
4. If ***NO***, describe methods used to formulate the dose given to animals, ensuring the sterility of the non-pharmaceutical grade compounds (e.g., passed through a 0.2 filter prior to being administered to animals, swipe on agar dishes, etc.). Please include storage procedures, shelf life, and quality control measures to be taken: Enter here

**Note**: If the shelf life is unknown, the final product should be prepared no less frequently than weekly.

1. If ***NO***, please provide a brief description of the class of compound, including mechanism of action (if known): Enter here
2. If ***NO***, and pharmaceutical grade is available, list each nonpharmaceutical grade compound used and provide scientific justification for their use: Enter here
3. If controlled substances will be used as part of this protocol, I agree: [ ]  N/A

[ ]  Controlled substances will be kept in a secure fashion in compliance with DEA standards.

[ ]  Only authorized personnel will be permitted access to controlled substance storage sites.

[ ]  Appropriate documentation relating to controlled substance usage will be maintained.

1. Name of individual registered with the Mississippi Board of Pharmacy and the DEA for approval of use of Controlled Substances: Enter here
2. Mississippi Board of Pharmacy Registration #: Enter here
3. DEA Registration #: Enter here

NOTE: Approval of protocols with controlled substances will be contingent upon registration approvals.

# ****Part I. Hazardous Agents****

## Expand and complete if Hazardous Agents are planning on being used.

Complete the applicable sections below if living animals will be exposed to potentially hazardous agents. Include drugs previously listed in Part H.

|  |  |
| --- | --- |
| **Type** | **Description** |
| **EXAMPLE: Carcinogen** | N,N-Dimethyldopamine |
| Select | Description here. |
| Select | Description here. |
| Select | Description here. |
| Select | Description here. |
| Select | Description here. |
| Select | Description here. |

1. Approvals:

* [Institutional Biosafety Committee](https://www.research.olemiss.edu/health-safety/ibc) approved Memorandum of Understanding Agreement number(s): [ ]  N/A Enter Text.
* [Application for Procurement and Use of Radioisotopes](https://safety.wp.olemiss.edu/wp-content/uploads/sites/142/2016/03/dhs030.pdf) approval date(s): [ ]  N/A Enter here

### 2. If working with cell lines or tissues, expand and complete: [ ]  N/A

[ ]  Human - Cell line name(s) (if applicable): Enter here [ ]  N/A

1. Have all personnel involved in this research received training for bloodborne pathogens?

 [ ]  Yes [ ]  No (contact [Laboratory Services](https://safety.olemiss.edu/safety-training/) to obtain training)

1. Are cell lines screened for:
* Adventitious viruses? [ ]  Yes – Provide Documentation [ ]  No
* Mycoplasmas? [ ]  Yes – Provide Documentation [ ]  No

 [ ]  Animal - Cell line name(s) (if applicable): Enter here [ ]  N/A

Check the appropriate box(es):

[ ]  Stock material is not of rodent origin and has not been previously passed in a rodent species at UM or any other institution.

[ ] Stock material is of rodent origin and/or has been previously passed in a rodent species but has been tested following its final passage and found to be free of adventitious rodent disease agents. (Please attach a copy of the results)

[ ]  It is not known whether the stock material has been previously passed in a rodent species. MAP/RAP/HAP, or other testing to detect rodent pathogens will be performed and the results forwarded to the attending veterinarian before inoculating any rodent species with material from the cell line.

### Describe procedures used to ensure safe handling, containment and disposal of contaminated animals and materials associated with this study: Enter here

### Personnel may potentially be exposed to the hazardous agent and/or toxic by-products through exposure to the animals or animal waste [ ]  Yes [ ]  No If yes, expand and complete:

If yes, describe recommended procedures for their protections, information about signs and symptoms of overexposure, and procedures for follow-up care and [reporting](https://research.olemiss.edu/manuals/4-accidental-injuries). Enter here[ ]  N/A

# Part J. Animal Endpoints (required section)

1. What is the experimental or teaching endpoint for the animals? (Check all that apply. Time and details of euthanasia should be described in [Part N](#_Part_N._Euthanasia).)
2. [ ] Animals will be humanely euthanized at a predetermined time following the start of protocol procedures.
3. [ ]  Animals will be humanely euthanized as part of the proposal but at a future undetermined time. Criteria for determining the time of euthanasia include: Enter here [ ]  N/A
4. Approved protocols to which animals may be transferred:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Principal Investigator | Protocol # |  | Principal Investigator | Protocol # |
| Enter here | Enter here |  | Enter here | Enter here |
| Enter here | Enter here |  | Enter here | Enter here |
| Enter here | Enter here |  | Enter here | Enter here |

1. [ ]  Animals of no further use to the experiment will be made available to other investigators 5 business days before euthanasia.
2. [ ] Animals captured from their natural habitat will be released back to their native environment or at a site comparable to the area from which they were captured.
3. [ ]  Animals will be permitted to live an undetermined length of time, will not be euthanized, and will be allowed to expire naturally or due to protocol related procedures without other intervention.

 Scientific justification\*: Enter here

1. [ ]  Other, describe: Enter here

# Part K. Pain and Distress (required section)

1. If there are any potential adverse or negative effects\* the animal(s) may experience as a result of the nature of the study, procedures or surgeries\* performed, compounds or agents administered.
2. Describe the nature of the adverse or negative effects: Enter here

[ ]  For studies involving wild-caught animals, check this box to assure that short term stress associated with capture and/or momentary handling will be minimized to the best of your ability when analgesia is not appropriate or is contraindicated. [ ]  N/A

1. Describe how the animals will be assessed, the frequency and length of monitoring (include provisions for after hour, weekend, and holiday care if applicable): Enter here
2. Describe criteria that will be used to determine when animals will be treated &/or euthanized (i.e., tumor size, ulcerations, illness), how the pain and/or distress\* will be alleviated, and clear directions concerning who can make the decision to euthanize &/or treat animals: Enter here
3. Describe the actions taken in the event of unexpected animal illness or injury:Enter here

# Part L. Analgesia

## Expand and complete the applicable sections below if providing analgesia (beyond that associated with the effects of anesthetic administration).

1. Analgesia will be administered: [ ] before the procedure\* [ ] during the procedure [ ] post-procedurally\*
2. Describe methods used if a non-pharmaceutical means of analgesia such as easy food access, soft bedding, decreased human traffic, and/or warm temperatures is proposed for use: Enter here
3. Provide justification\* for not providing analgesia (if applicable): Enter here[ ]  N/A

# Part M. Anesthesia, Tranquilization and Sedation

**Note: The use of anesthesia requires consultation with the Attending Veterinarian prior to submitting a protocol and demonstrated proficiency prior to performing anesthesia unsupervised. Please see the “**[**Training for Animal Anesthesia and Surgery**](https://policies.olemiss.edu/ShowDetails.jsp?istatPara=1&policyObjidPara=11050350)**” policy.**

## Expand and complete the applicable sections below if administering tranquilizers, sedatives, anesthetics, or paralytics.

1. Injectable Agents: [ ]  N/A

Agent: Enter here

Dosage: Enter here

Route/site of administration: Enter here

2. Inhalation Agents [ ]  N/A

Agent\*: Enter here

Concentration of anesthetic gas to which animals will be exposed: Enter here

Method of administration: Select If Other, describe: Enter here

Method of scavenging waste gases: Enter here

If using a fume hood, is it currently certified? [ ] Yes [ ]  No

Other information (If applicable.): Enter here

3. Non-inhaled Agents [ ]  N/A

Agent: Enter here Concentration: Enter here

Route of administration: Enter here

Other information: Enter here

Describe methods used if a non-pharmaceutical means of anesthesia is proposed for use: Enter here

# Part N. Euthanasia and Final Disposition of Animals

## Expand and complete if animals are to be euthanized, complete the applicable sections below. Refer to the [2020 American Veterinary Medical Association Guidelines for the Euthanasia of Animals](https://www.avma.org/KB/Policies/Documents/euthanasia.pdf) for recommendations. Regardless of method used or primary responsibility, all personnel must be trained.

1. Who will be responsible for euthanasia and the final disposition of animals? Enter here
2. Where will euthanasia take place? Enter here
3. Describe plan for carcass disposal following euthanasia (i.e., transferred to collaborators, kept in lab storage-provide location, LAR carcass storage and disposal). If applicable, include details regarding special carcass disposal such as biohazard: Enter here
4. Physical method without anesthesia (Check all that apply)

[ ]  Decapitation [ ] Cervical dislocation [ ] Penetrating captive bolt [ ] Pithing

[ ]  Other, describe method: Enter here

[ ]  PI ensures that all personnel potentially performing the above technique have been properly trained.

1. Scientific justification for using the proposed methodology: Enter here
2. If using a guillotine or scissors, also describe methods used to determine the blades are sufficiently sharp, and that the unit functions correctly and can be used in performing rapid and humane euthanasia: Enter here
3. Physical method preceded by anesthesia:

[ ]  Decapitation [ ] Cervical dislocation [ ] Exsanguination

[ ]  Other, describe method: Enter here

Anesthetic agent(s): Enter here (*Details of anesthetic usage should be included in* [*Part M*](#PartM)*.*)

1. Other information (If applicable.): Enter here
2. If using a guillotine or scissors, describe methods used to determine the blades are sufficiently sharp, and that the unit functions correctly and can be used in performing rapid and humane euthanasia: Enter here
3. Chemical method (e.g. MS-222, CO2)
4. Chemical Agent: Enter here
5. Describe methods for ensuring and confirming death (i.e., secondary physical method of euthanasia): Enter here
6. [ ]  PI certifies CO2 used for euthanasia is delivered from a compressed gas cylinder at a 30-70% chamber volume per minute displacement rate using an adjustable flow meter.

# Part O. Alternative Literature Search (required section)

I have considered the following alternatives to the animal research, teaching, or testing procedures described in the attached protocol and have determined that no potential alternatives consistent with the goals of the proposal are currently available. (Indicate the options considered.)

[ ] Cell or Tissue Culture [ ] Computer Model [ ] Non-animal Procedures

[ ] Less Invasive Procedures [ ]  N/A

1. [ ]  I have considered the use of a phylogenetically lower species of animals and have determined that valid research results necessitate the use of the species indicated.
2. [ ]  I certify the activities described in the attached protocol do not unnecessarily duplicate previous experiments.
3. [ ]  If this protocol involves the use of a United States Department of Agriculture (USDA) regulated species, I certify that I have reviewed the pertinent scientific literature and the sources and/or databases and have found no valid alternative to any procedures described herein which may cause more than momentary pain or distress, whether it is relieved or not. Below are the methods used and sources consulted to determine the availability of alternatives, including refinements, reductions, and replacements.

**Note:** **You must include at least two databases** such as ASFA, BIOSIS, FEDI, Life Sciences, MEDLINE (PubMed), PsycINFO, etc.

Names of databases searched: Enter here Date of search (i.e., 3/15/23): Enter here

Period covered by search: Enter hereKeywords and/or search strategy: Enter here

Documentation for this section is required for all animals used in biomedical research or teaching. Performance of a database search may be the most effective and efficient method for demonstrating compliance with the requirement to consider alternatives to painful/distressful procedures. However, in some circumstances (as in highly specialized fields of study), conferences, colloquia, subject expert consultants, or other sources may provide relevant and up-to-date information regarding alternatives in lieu of, or addition to, a database search. When other sources are the primary means of considering alternatives, sufficient documentation, such as the consultant’s name and qualifications and the date and the content of the consultation, should be provided to the IACUC as a separate attachment. Also, the Animal Welfare Information Center (AWIC) is an information service of the National Agricultural Library specifically established to provide information about alternatives. AWIC can be contacted at (301) 504-6212, via E-mail at [AWIC Contact](https://www.nal.usda.gov/sites/default/files/page-files/AWIC%20literature%20search%20request%20form-Apr2023-508.pdf) or via its web site at [Search for Alternate Animal Use](https://www.nal.usda.gov/services/literature-searching-animal-use-alternatives). If a database search or other source identifies a bona fide alternative method (one that could be used to accomplish the goals of the animal use proposal), the written narrative should justify why this alternative was not used.

1. Did you find any ways to reduce animal numbers? Enter here
2. Did you find any methods that minimize pain and distress? Enter here

# Part P. Assurance of Compliance (required section)

**By clicking “I AGREE” you, as the Principal Investigator, are confirming that you will comply with all the statements listed below:**

1. I have carefully considered the design of the study with respect to using the minimum number of animals necessary to ensure statistical validity and reliability of the obtained results.
2. I certify every effort has been made to minimize the amount of pain, distress and/or discomfort the animals may experience by providing anesthesia and/or analgesia whenever it does not interfere with proposal goals. Procedures involving animals will be carried out humanely and have been designed to ensure that discomfort and pain to animals will be limited to that which is scientifically unavoidable to meet study goals.

1. I agree to immediately notify the attending veterinarian or animal care staff of any unanticipated animal injury, illness or research outcome that impacts animal welfare and will report the event, in writing, to the IACUC at iacuc@olemiss.edu. Guidelines for reporting can be found on the [IACUC website](https://www.research.olemiss.edu/iacuc/guidance/safety/injury).
2. I agree that if an animal covered under this protocol becomes ill, is in pain or distress, and if the co-investigators or I cannot be reached, the attending veterinarian or designee may treat this animal including euthanasia for humane purposes.
3. I agree to comply with all federal, state, and university animal welfare laws and policies during this project and to cooperate with the UM Laboratory Animal Program in its supervision of these laws and policies.
4. I certify that I will obtain approval from the UM’s IACUC before initiating any changes in this study and will promptly notify the IACUC of any changes in personnel participating in the project.
5. I certify that all individuals authorized to conduct procedures involving animals under this proposal have been appropriately trained in the procedures and assessed for proficiency in which they are involved, and are aware of their responsibilities, and will be provided copies of all relevant materials including this protocol.
6. I certify that all individuals authorized to conduct procedures involving animals under this proposal have met the necessary Laboratory Animal Program Occupational Health and Safety Policy requirements.
7. I acknowledge that by ordering and/or housing animals in the UM Vivarium, I am agreeing to keep per diem accounts current and that failure to pay per diems can result in loss of vivarium privileges including but not limited to, ordering animals, breeding animals, and/or access to the vivarium.

[ ]  **I AGREE**

**PI NAME:** Enter here **DATE:** Enter here

|  |
| --- |
| **FOR OFFICE USE ONLY** |
| Investigator: Enter here |
| Protocol Title: Enter here |
| Protocol #: Enter here |

# University of Mississippi Animal Care & Use Protocol

# Section 2 – Surgery

.

# Expand and complete the sections below if you plan to conduct survival or non-survival surgery in animals.

## **Part A. Surgery Information**

All surgeries require a consultation with the Attending Veterinarian prior to submitting a protocol.

[ ]  I certify that research personnel who perform or participate in surgery on laboratory animals in any teaching, testing, or research protocol at the University of Mississippi must receive training in accordance with UM’s “[Training for Animal Anesthesia and Surgery](https://policies.olemiss.edu/ShowDetails.jsp?istatPara=1&policyObjidPara=11050350)” policy, demonstrate proficiency, and be certified by the Attending Veterinarian before performing surgery unsupervised. Complete and submit [the Proficiency Criteria for Research Animal Anesthesia and Surgery form](https://research.olemiss.edu/sites/default/files/Proficiency%20Criteria%20for%20Research%20Procedures.doc) to Dr. Harry Fyke, TCRC B104.

1. What type of surgery is to be performed?

### [ ]  **Acute/ Non-Survival Surgery**: The animal will remain anesthetized during the entire procedure and will be euthanized without awakening. Expand and complete the following sections regarding non-survival surgery involving animals:

1. Who will be performing the surgery? Enter here
2. Location (building and room number) where the surgery will be performed: Enter here
3. Describe animal pre-operative preparation, surgical site preparation, and description of procedures to be performed: Enter here
4. Describe the experimental endpoint: Enter here

### [ ]  **Survival Surgery**: The animal will awaken from anesthesia. Major survival surgery is defined by the [Guide for the Care and Use of Laboratory Animals](https://grants.nih.gov/grants/olaw/guide-for-the-care-and-use-of-laboratory-animals.pdf) as penetrating and exposing a body cavity or producing substantial impairment of physical or physiological function. Expand and complete the following sections regarding survival surgery involving animals:

Using the definitions from the current edition of the *Guide*, is this procedure minor or major surgery? (Please consult the Attending Veterinarian if uncertain.)

\***Minor Surgery:** “Does not expose a body cavity and causes little or no physical impairment; this category includes wound suturing, peripheral vessel cannulation, and percutaneous biopsy.”

\***Major Surgery**: “Penetrates and exposes a body cavity, produces substantial impairment of physical or physiological functions, or involves extensive tissue dissection or transection.”

1. [ ]  **Minor** [ ]  **Major**
2. Who will be performing the surgery? Enter here
3. Location (building and room number) where surgery will be performed: Enter here
4. Location of surgery logs/records and instrument sterilization records (required): Enter here

**NOTE**: See sample records under “[Other Forms](https://www.research.olemiss.edu/iacuc/forms)”.

1. Describe animal pre-operative care and aseptic preparation of the animal, surgeon, surgical instruments, and surgical site: Enter here
2. [ ]  Food and/or Water Restriction

Provide the duration of food and/or water restriction: Enter here

1. Describe the procedure including anatomical location and approximate size of the incision sites, placement site, and size of catheters or implantable devices, all suture material, and estimated duration of surgery including a description of the closure of the surgical site: Enter here
2. Who will be responsible for providing post-operative care? (Please provide the names of specific individuals and their role in post-operative care.): Enter here
3. Describe post-operative care, including supplemental heat, administration of fluids or analgesics, frequency of animal observation in minutes/hours, and all drugs to be administered following surgery: Enter here
4. Sutures/Staples/Wound Clips will be removed after Enter here days.

If not, explain: Explain here.

1. If fluid and/or electrolyte therapy is planned, describe: [ ]  N/A
* Fluid type: Enter here
* Route/Site administered: Enter here
* Volume administered: Enter here
* Frequency of administration: Enter here
1. Describe the clinical signs that are **normally expected** in the animals as a result of the procedure(s) (e.g., tumors, surgical wounds, weight loss, behavioral abnormalities, illness etc.): Enter here
2. What post-operative complications are reasonably possible and how will they be addressed? Enter here
3. **Multiple major survivor surgeries must be scientifically justified**. If multiple major survival surgical procedures will be performed on any animals, justify why this must occur and describe the multiple surgical sequence and timing between procedures: Enter here [ ]  N/A

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# University of Mississippi Animal Care & Use Protocol

# Section 3 – Animal Breeding

# Expand and complete the sections below if you plan to maintain an animal breeding colony.

## **Part A. Animal Data**

|  |  |
| --- | --- |
| 1. Species:
 | Enter here |
| 1. Genetic background:
 | Select |
| 1. Source of Breeding Stock:
 | **\*** Enter here |
| 1. Estimated number of animals used to begin breeding colony:
 | **\*** Enter here |
| 1. Estimated number of offspring to be produced:
 | **\*** Enter here |
| 1. Total number of animals used for breeding and offspring produced during the 3-year duration of this proposal (Sum total of Lines 4-5):
 | **\*** Enter here |
| 1. Approximate number of generations the breeding colony will be separated from the parent line at the end of each respective year.
 | Year 1 | Year 2 | Year 3 |
| Enter here | Enter here | Enter here |

## **Part B. Breeding Colony Management**

1. [ ]  By checking this box, the PI assures that they have read and understand the [UM Breeding Policy](https://secure24.olemiss.edu/umpolicyopen/GetPdfActive?pol=13111685&ver=active&file=13111685_active_20230524.pdf&cod=RSP.RI.302.020).
2. Indicate the breeding procedure(s) that will be used for this colony:

[ ]  Standard Mating [ ]  Continuous Mating

**NOTE:** Continuous Trio Mating must be performed in static breeder cages unless justification for standard size caging is provided by the PI and approved by the IACUC. Continuous Harem Mating is not allowable in any size caging. Please see [the UM Breeding Policy](https://secure24.olemiss.edu/umpolicyopen/GetPdfActive?pol=13111685&ver=active&file=13111685_active_20230524.pdf&cod=RSP.RI.302.020).

[ ]  Monogamous Pairs (1 male, 1 female) [ ]  Trio Mating (1 male, 2 females)

[ ]  Harem Mating (1 male, up to 3 females) [ ]  If other, describe: Enter here

1. How will the animals be identified (Each breeding animal should have a unique identifier that is not repeated in subsequent generations.)

[ ]  Ear notch [ ]  Ear tag [ ]  Tattoo [ ]  Microchip [ ]  Cage card [ ] Other: Enter here

1. Describe the breeding schemes used to ensure homozygosity of inbred strains or heterogeneity of outbred stocks and to minimize genetic drift: Enter here
2. Indicate the information recorded as part of the breeding colony's pedigree records:

[ ]  species and strain designation [ ]  # born [ ]  date of birth

[ ]  breeder identification numbers [ ]  # weaned [ ]  weaning date

[ ]  disposition of all offspring produced [ ]  mating date [ ]  phenotypes and genotypes

[ ]  offspring retained for colony maintenance [ ]  animals culled [ ]  animals transferred

**\*Note: All animal numbers must be reported including non-targeted animals that are euthanized at weaning.**

1. Will the resultant offspring be genetically monitored? [Please see UM’s Guideline for Tissue Collection for Genotyping Rodents.](https://www.research.olemiss.edu/sites/default/files/Guideline%20for%20Tissue%20Collection%20for%20Genotyping%20Rodents.pdf)

[ ]  Yes [ ]  No

If YES:

1. How frequently are animals genetically tested? Enter here
2. What tissue samples are collected?

[ ]  Tail clip (Details of anesthesia use should be described in [Section 1, Part L](#_Part_L._Analgesia))

 Length of Sample ([No more than 5mm](https://www.research.olemiss.edu/sites/default/files/Guideline%20for%20Tissue%20Collection%20for%20Genotyping%20Rodents.pdf)):Enter here

[ ]  Blood sample (Details of blood sampling should be described in [Section 1, Part G](#_Part_G._General), # 5)

[ ] If other, describe: Enter here

1. At what age are the animals genotyped? Enter here
2. What method of genetic analysis is used?

[ ]  PCR [ ]  If Other, describe: Enter here

If NO, explain why: Enter here

1. At what age will weaning occur? Enter here(Rodents are normally weaned at 3 weeks of age. Research personnel are responsible for ensuring animals are weaned at the appropriate time, current litters are removed prior to the birth of new litters and that cages/pens are not overpopulated.)
2. What criteria is used in selecting the future breeding stock?Enter here
3. Approximately how often will a breeding female be mated: Each year? Enter here In her lifetime? Enter here
4. How will you monitor and check for pregnancy? Enter here
5. Who will check the colony daily for new births? Enter here
6. How will overcrowding be prevented in breeder cages? ([See UM Breeding Policy](https://policies.olemiss.edu/ShowDetails.jsp?istatPara=1&policyObjidPara=13111685)): Enter here
7. Describe any known expected phenotypes for animals in the colony. Enter here

[ ] By checking this box, the PI assures that unanticipated phenotypes and/or unexpected outcomes related to genetically modified animals will be reported to the IACUC.

## **Part C. Animal Disposition**

1. How long will individual breeding animals be maintained? Enter here
2. What criteria is used to discontinue using an animal as a breeder? Enter here
3. What is the disposition of retired breeders? Enter here
4. Progeny produced may (check all that apply):

[ ]  be retained for colony maintenance (i.e., to be used as breeders)

[ ]  be [transferred](https://www.research.olemiss.edu/sites/default/files/TransferLiveAnimals_FORM_0.doc) to research/teaching protocols at UM (see [Section 1, Part J.9](#_Part_J._Animal).)

[ ]  be transferred to other institutions (Contact the IACUC to transfer animals)

[ ]  not be suitable for needs of research/teaching protocols.

 What criteria is used to determine when progeny is not suitable for research/teaching protocols? Enter here

[ ]  Other, explain: Enter here

1. Describe the disposition of any animals that are produced in excess of your needs, or those that don't meet your needs. **(All animal numbers must be reported including non-targeted animals that are euthanized at weaning.)**

[ ]  euthanize and dispose of the carcass through LAR and Laboratory Services (Complete [Section 1, Part J – Animal Endpoints](#_Part_J._Animal))

[ ]  Other, describe: Enter here

**(Whenever possible, animals that cannot be used should be made available to other researchers. Contact Laboratory Animal Resources for more information.)**

1. What steps are taken to minimize the number of animals produced in excess of your needs and those that don't meet your needs? Enter here

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**University of Mississippi Animal Care & Use Protocol**

# Section 4 – Field Study

# Expand and complete the sections below if you plan to conduct field studies.

## **Part A. Field Study Description**

1. List any hazards that may be encountered in the field, including any potential zoonoses or non-targeted species hazards: Enter here
2. Have all applicable permits been obtained? [ ]  Yes [ ]  No
3. Describe means of animal capture and frequency of trap checks: Enter here
4. Will animals be held in captivity for more than 12 hours? [ ]  Yes [ ]  No

Will animals be held in captivity for more than 24 hours? [ ]  Yes [ ]  No

 **If the answer is YES to either question above, describe:**

1. The planned duration of captivity: Enter here
2. The holding facility, including cage dimensions and environmental controls: Enter here
3. All equipment to be used, including experimental and restraint equipment: Enter here
4. Food/fluid strategies: Enter here
5. Release procedure, if applicable: Enter here
6. What is the expected injury or death rate during captures? Enter here
7. If released, where will the captured animals be released? Enter here
8. If not released, what will happen to the animals? Enter here
9. Describe any potential for animal or human injury during capture and/or handling: Enter here
10. Describe methods used to minimize injuries: Enter here
11. Describe steps taken if injuries involving humans or animals do occur: Enter here
12. Describe personal protective equipment: Enter here
13. All injuries and/or health related incidents must be reported immediately to the employee’s/student’s supervisor. See UM’s [Accidental Injury Guideline](https://research.olemiss.edu/manuals/4-accidental-injuries) for information on reporting injuries and health related incidents.
14. What precautions are taken to prevent capture of non-targeted species? Enter here
15. Do the research animals have food value for human consumption? [ ]  Yes [ ]  No

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**University of Mississippi Animal Care & Use Protocol**

# Section 5 – Additional Personnel

Complete this section for each co-investigator and each of the individuals who may participate in the animal work described in the protocol. Press the “+” in the bottom right corner to add additional personnel.

**All required training and Occupational Health and Safety enrollment must be complete before the application can be reviewed.**

Name: Enter here Title: Enter here UM Email: Enter here Work Phone: Enter here

Emergency Phone **(if individual will be responsible emergency response)**: Enter here [ ]  N/A

1. Enrolled in [Occupational Health Program](https://www.research.olemiss.edu/iacuc/mandatory-training)?: Select
2. Procedures performed on animals as part of this proposal:

[ ] Basic animal handling [ ]  Husbandry [ ]  Surgery

[ ]  Drug administration [ ]  Euthanasia [ ]  Other; explain: Enter here

1. Describe the researcher’s experience and qualifications relevant to the specific responsibilities on the protocol. For personnel without prior relevant experience, state how the person will be trained, who will do the training, and the qualifications of the trainer. Please provide specific information in relation to the procedures listed on the protocol. See examples below. Enter here

 **“Example Name will be responsible for performing Gastric Gavage as listed on this protocol. Example Name was trained and certified by Example Trainer at Example University in 2022 on Gastric Gavage, has performed Gastric Gavage successfully on more than 50 mice and 30 rats. Will demonstrate proficiency to Attending Veterinarian before performing the procedure unsupervised.”**

**“Example Name will be responsible for performing Gastric Gavage as listed on this protocol. Currently, Example Name does not have experience performing Gastric Gavage but will be trained by Dr. Example who has performed, successfully, more than 100 Gastric Gavage procedures and has demonstrated/will demonstrate their proficiency to Attending Veterinarian before training of Example Name begins. Example Name will not be allowed to perform the Gastric Gavage procedures unsupervised until their proficiency has been demonstrated and approved by Attending Veterinarian.”**

1. Have viewed the following IACUC CITI online training modules and successfully passed the corresponding quizzes (\*required):

[ ] \*Working with the IACUC [ ]  \*Species specific module and/or Wildlife Research

[ ]  \*Laboratory Chemical Safety [ ]  \*Animal Biosafety [ ]  Aseptic Surgery

[ ]  Minimizing Pain and Distress

Name: Enter here Title: Enter here UM Email: Enter here Work Phone: Enter here

Emergency Phone **(if individual will be responsible emergency response)**: Enter here [ ]  N/A

1. Enrolled in [Occupational Health Program](https://www.research.olemiss.edu/iacuc/mandatory-training)?: Choose an item.
2. Procedures performed on animals as part of this proposal:

[ ] Basic animal handling [ ]  Husbandry [ ]  Surgery

[ ]  Drug administration [ ]  Euthanasia [ ]  Other; explain: Enter here

1. Describe the researcher’s experience and qualifications relevant to the specific responsibilities on the protocol. For personnel without prior relevant experience, state how the person will be trained, who will do the training, and the qualifications of the trainer. Please provide specific information in relation to the procedures listed on the protocol. See examples below. Enter here

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[ ]  \*Laboratory Chemical Safety [ ]  \*Animal Biosafety [ ]  Aseptic Surgery

[ ]  Minimizing Pain and Distress

Name: Enter here Title: Enter here UM Email: Enter here Work Phone: Enter here

Emergency Phone **(if individual will be responsible emergency response)**: Enter here [ ]  N/A

1. Enrolled in [Occupational Health Program](https://www.research.olemiss.edu/iacuc/mandatory-training)?: Choose an item.
2. Procedures performed on animals as part of this proposal:

[ ] Basic animal handling [ ]  Husbandry [ ]  Surgery

[ ]  Drug administration [ ]  Euthanasia [ ]  Other; explain: Enter here

1. Describe the researcher’s experience and qualifications relevant to the specific responsibilities on the protocol. For personnel without prior relevant experience, state how the person will be trained, who will do the training, and the qualifications of the trainer. Please provide specific information in relation to the procedures listed on the protocol. See examples below. Enter text

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[ ]  Minimizing Pain and Distress