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|-------------------|-----------------|
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| <b>Protocol #</b> | 2023-1202       |
| <b>Status :</b>   | Un-Finished     |
| <b>Approved :</b> | / /             |
| <b>Expires :</b>  | / /             |
| <b>Title :</b>    |                 |

## Table of Contents

[Protocol Introduction](#)  
[Protocol Overview](#)  
[Protocol Federal/Foundation Funding List](#)  
[Protocol Internal Funding](#)  
[Private or Other Funding](#)  
[Animal Tissues Info](#)  
[Antibodies Source](#)  
[Inside Collaboration](#)  
[Outside Collaboration](#)  
[Off-campus Animal Work](#)  
[Housing Outside Central Facility](#)  
[Transportation of Animals](#)  
[Human Clinical Info](#)  
[Protocol Type](#)  
[Hazardous Use Info](#)  
[Field Study](#)  
[Mice](#)  
[Species Information](#)  
[Justification for Choice of Species](#)  
[Species Source](#)  
[Enrichment and/or Exercise](#)  
[Quarantine and Conditioning](#)  
[Use Locations](#)  
[Strain Information](#)  
[Breeding Information](#)  
[Non-Surgical Procedures](#)  
[Restraint Types](#)  
[Surgical Procedures](#)  
[Multiple Major Surgeries](#)  
[Drug Information](#)  
[BioHazard Agents IBC](#)  
[Euthanasia Method Information](#)  
[Humane Use Animal Categories](#)  
[Methodology](#)  
[Unrelieved Pain/Distress](#)  
[Reduce, Refine, Replace](#)  
[Adverse Consequences](#)  
[SOP Exemptions](#)  
[Personnel List](#)  
[Databases Searched](#)  
[Research Endpoints](#)  
[Protocol Attachments](#)

## Protocol Introduction

Although IACUC Members conducting the review may review any aspect of the study, the [IACUC Review Checklist](#) ([../images/IACUC\\_Review\\_Checklist.pdf](#)) is used as a guideline for members. This list is not all-inclusive. The document is intended to guide both reviewers and researchers in recognizing important aspects of animal welfare that must be addressed in the protocol form.

Federal/Foundation funded?



Internally funded?



Private or other funding source?



Will you be using tissues from animals not on this protocol?

Yes ☒ No ☐

Will antibodies be specifically generated for this study?

Yes ☒ No ☐

Will you be collaborating with colleagues within institution?

Yes ☒ No ☐

Will you be collaborating with an outside institution?

Yes ☒ No ☐

Will any live animal research be conducted off campus?

Yes ☒ No ☐

Will animals be housed outside central housing facilities for more than 12 hours?

Yes ☒ No ☐

Will animals be moved through public access areas?

Yes ☒ No ☐

Will human clinical areas be used

Yes ☒ No ☐

Will you be using bio hazardous agents/radio active materials, or stem cells?

Yes ☒ No ☐

Will field studies be conducted?

Yes ☒ No ☐

Protocol Species Grid

To add a species, click the "ADD" button on the bottom of the grid, select the species from the picklist then place checkmarks in each column as applicable. Save the species selection by clicking the Save button on the bottom of the grid, then save the page by clicking the Save button below the grid.

| Species | Breeding? | Procedures? | Restraint? | Surgery? | Drugs? | Euthanize? | Bio-hazard (IBC)? |
|---------|-----------|-------------|------------|----------|--------|------------|-------------------|
| Mice    | Yes       | Yes         | Yes        | Yes      | Yes    | Yes        | Yes               |

Protocol Overview

Note that you may click and drag the bottom right corner of any text area to resize it.

Enter title for this Protocol

How would you explain to a non-scientist the long term or overall scientific goals and objectives of the proposed work?

For experimental protocols, how would you explain to a non-scientist the way the proposed animal use might benefit human or animal health, the advancement of knowledge, or the good of society? If this is a teaching or demonstration protocol, explain the purpose of the teaching exercise or demonstration and why it is important.

For experimental protocols, please provide a brief summary of the proposed experiments.

- The summary should allow the committee to understand what combination of experimental interventions/procedures will be used for all animals, or groups of animals requested on the protocol.
- Please do not include specific experimental details here. Details will be provided in the methodology section.
- The goal of this section is to capture the rationale and scope of the work to be conducted.

If this is a teaching or demonstration protocol, briefly describe how the animals will be used and treated in the exercise or demonstration.

Experimental Summary

Protocol Federal/Foundation Funding List

Click "Add Funding Source" and complete funding information. If you are the PI, you may click "Add From My List of Funds" which will narrow the options to funding sources previously approved on your protocols. You may add more than one funding source.

Protocol Internal Funding

Add each Internal source that will supply funding for this work.

## Private or Other Funding

## Animal Tissues Info

If tissues are taken specifically for you from a live animal, please state the assurance number of the institution and the investigator's protocol number.  
**Will you be using tissues taken from live animals (other than animals on your protocol) specifically for your study?**

Yes ☐ No ☐

## Antibodies Source

*State the name and assurance number of the facility/institution producing antibodies for use on this Protocol.*

**Antibodies Source Name**

**Assurance Number (if applicable)**

**Will the Ascites method be used? Note: This procedure is discouraged and requires strong justification.**

Yes ☐ No ☐

## Inside Collaboration

Complete required fields, investigator name is an auto-fill field.

**Collaborating PI**

**Approved Cayuse Protocol Number**

**If the protocol number is not from an approved Cayuse protocol, enter it here**

## Outside Collaboration

## Off-campus Animal Work

*Please answer the questions below regarding animal work performed off-campus. If animal work will be conducted at an off-campus location, the IACUC may require additional approval and/or inspections.*

**Name of Collaborator**

**Name of Off-site Location**

**Assurance Number**

## Housing Outside Central Facility

*Housing animals outside the central facility for longer than 12 hours requires scientific justification and IACUC approval.*

**Will any animals be housed outside the central facility for more than 12 hours but less than 24 hours?**

Yes ☐ No ☐

**Will any animals be housed outside the central facility for more than 24 hours?**

Yes ☐ No ☐

## Transportation of Animals

*Transportation of animals outside the central facility must follow guidelines set by the IACUC.*

**Will you follow IACUC-approved routes and transportation containment procedures?**

Yes ☒ No ☐

**Indicate which route you plan to use. If you answered "No" above, please describe proposed route and containment method and provide justification.**

## Human Clinical Info

*Identify the human clinical area and indicate whether approval has been granted.*

**Human Clinical Location**

**Has location been approved for animal use?**

Yes ☐ No ☐

**How long will they be out for treatment?**

**Where will they be housed after treatment?**

## Protocol Type

*Identify all types of animal use for this protocol.*

*Your choices here and on subsequent pages will determine the correct USDA pain category.*

Which of the following describe the type of animal use proposed in this application? (check all that apply)

**Research**

☐

**Field Work**

☐

**Teaching**

☐

**Demonstration or Display**

☐

**Breeding Colony**

☐

**Animal Colony**

☐

**Other?**

☐

## Hazardous Use Info

*Complete fields as applicable including the approval number(s) and expiration date(s).*

**IBC approval must be in place before to IACUC approval. Please attach your IBC approval letter so that the IACUC can move forward with the review.**

**Radioactive Isotope used?**

Yes ☐ No ☐

**Hazardous Chemical used?**

Yes ☐ No ☐

**Stem Cell used?**

Yes ☐ No ☐

**Recombinant DNA used?**

Yes ☐ No ☐

**Pathogens Used?**

Yes ☐ No ☐

## Field Study

**Are Animals Captured or Handled During Study**

Yes ☐ No ☐

**Indicate the field study location. If animals will be trapped, describe how they will be trapped and the types of traps used.**

**Is International, Federal or State Permit Required (If yes, attach the permit)**

Yes ☐ No ☐

## Mice

## Species Information

*Complete required fields*

**Age Range of study animals**

**Target weight range**

**Estimate of Average Daily Census (cages)**  
(enter 0 if animals will not be housed)

0

**Estimate of Average Length of Time Housed (weeks)**  
(enter 0 if animals will not be housed)

0

**Will animals be Specific Pathogen Free?**

Yes ☐ No ☐

**Is this species venomous?**

Yes ☐ No ☐

## Justification for Choice of Species

Justify the choice of species by stating why a species lower on the phylogenic scale is not appropriate.

### Justification for Choice of Species/Animal Model

## Species Source

If you plan to obtain animals from a source other than the Operations Manager at the Science Annex, IACUC approval will be necessary.

Will animals be purchased through the institution's approved office (i.e., Operations Manager at the Science Annex)?

Yes ☒ No ☐

## Enrichment and/or Exercise

The Animal Welfare Act requires facilities to provide exercise for dogs and programs to promote the psychological well-being of non-human primates, while the U.S. Public Health Service Guide to the Care and Use of Laboratory Animals encourages "enriching the environment as appropriate to the species....".

Will animals be group housed?

Yes ☐ No ☐

Will environment enrichment be provided?

Yes ☐ No ☐

## Quarantine and Conditioning

Science Annex quarantine guidelines and conditioning SOPs (<https://www.shsu.edu/dept/office-of-research-and-sponsored-programs/compliance/iacuc/vivarium/>).

Will you follow the standard operating procedures for your specific facility?

Yes ☐ No ☐

## Use Locations

Indicate all of the locations where surgeries, procedures and/or euthanasia will be performed.

## Strain Information

Choose a strain from the pick list. If the strain you want is not on the pick list, enter it in the other field.

## Breeding Information

If breeding mice, strain choice may require written authorization from vendor

Explain why animals are bred and justify the number of animals generated. Indicate how the excess and/or surplus population be managed.

Transgenic Flag

Yes ☐ No ☐

Breeding Colony Maintenance Yes/No

Yes ☐ No ☐

## Non-Surgical Procedures

Indicate the Non-Surgical Procedures you will conduct. Your choices of procedures will determine the USDA pain level for each species requested.

| Procedure Code | Procedure Name  | Procedure Description |
|----------------|-----------------|-----------------------|
| Clipping       | Tail Clipping   |                       |
| Diet           | Controlled Diet |                       |
| Monitoring     | Diet Monitoring |                       |

If you will deviate in any way from the procedure's SOP, please describe and justify.

## Restraint Types

## Surgical Procedures

Surgery is defined as a major operative procedure that exposes a body cavity or produces substantial impairment of physical or physiologic function.

*If working with farm animals, please obtain a copy of "The Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching" published by The Federation of Animal Science Societies. These are available from the chair of the agricultural department.*

Yes ☐ No ☐

Yes ☐ No ☐

[AVMA Guidelines for the Euthanasia of Animals: 2020 Edition \(\[https://myshsu-my.sharepoint.com/personal/sgf002\\\_shsu\\\_edu/\\\_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fsgf002%5Fshsu%5Fedu%2FDocuments%2FORSP%2FIACUC%2FCayuse%20IACUC%2FCayuse%20IACUC%20support%2F2020%2DAVMA%2DGuidelines%2Epdf&parent=%2Fpersonal%2Fsgf002%5Fshsu%5Fedu%2FDocuments%2FORSP%2FIACUC%2FCayuse%20IACUC%2FCayuse%20IACUC%20support%2F2020%2DAVMA%2DGuidelines%2Epdf\]\(https://myshsu-my.sharepoint.com/personal/sgf002\_shsu\_edu/\_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fsgf002%5Fshsu%5Fedu%2FDocuments%2FORSP%2FIACUC%2FCayuse%20IACUC%2FCayuse%20IACUC%20support%2F2020%2DAVMA%2DGuidelines%2Epdf&parent=%2Fpersonal%2Fsgf002%5Fshsu%5Fedu%2FDocuments%2FORSP%2FIACUC%2FCayuse%20IACUC%2FCayuse%20IACUC%20support%2F2020%2DAVMA%2DGuidelines%2Epdf\)\)](https://myshsu-my.sharepoint.com/personal/sgf002_shsu_edu/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fsgf002%5Fshsu%5Fedu%2FDocuments%2FORSP%2FIACUC%2FCayuse%20IACUC%2FCayuse%20IACUC%20support%2F2020%2DAVMA%2DGuidelines%2Epdf&parent=%2Fpersonal%2Fsgf002%5Fshsu%5Fedu%2FDocuments%2FORSP%2FIACUC%2FCayuse%20IACUC%2FCayuse%20IACUC%20support%2F2020%2DAVMA%2DGuidelines%2Epdf)

**Column E:** Pain or distress or potential pain or distress that is not relieved with anesthetics, analgesics and/or tranquilizer drugs or other methods for relieving pain or distress.

| USDA Category | # of Animals |
|---------------|--------------|
| B             | 0            |
| C             | 0            |
| D             | 0            |
| E             | 0            |

Justification of the number of animals needed: include the number of animals to be used, discuss the statistical test to be used, alpha level, power, effect size, and mean differences based on previous research. Failure to do so will result in an immediate request for revision without review.

## Methodology

For each species, **describe in narrative form all experimental or instructional procedures to be performed on the animals** (e.g. blood collection, surgery, behavioral training, administration of substances or test compounds, breeding, tumor induction, etc.). Include the time frames and intervals and describe the procedures in the order in which they will be performed. Include a description of procedures performed on anesthetized animals. All procedures checked on the procedures page should be described below.

Include the rationale for use of tissues in vitro but do not describe in vitro procedures performed on tissues taken from animals or procedures performed on animals after they are euthanized.

Please list the interventions/procedures in chronological order, indicating the time interval between each procedure, and the final disposition of the animals at the end of the experiment. **All procedures listed in the table on the procedures page must be included.**

Flowcharts or other graphical representation of the methodology can be very helpful. This text box allows for tables, pictures and flowcharts to be created in Esirius or they can be pasted into the text box. It is preferred that all tables, charts, and pictures be inserted in the text box but you may attach the files below if needed. Please contact a member of the IACUC or veterinary staff should you require guidance regarding the information and level of detail that should be provided here.

| Species | Type       | Description     |
|---------|------------|-----------------|
| Mice    | Procedures | Controlled Diet |
| Mice    | Procedures | Diet Monitoring |
| Mice    | Procedures | Tail Clipping   |

Procedure Description. If no procedures will be performed, enter None in the text box and save the page.

## Unrelieved Pain/Distress

Will animals be subjected to procedures involving unrelieved pain or distress (category E)?

Yes ☐ No ☐

## Reduce, Refine, Replace

REDUCTION of animal use (i.e., modifying the experimental paradigm or performing statistical analysis to allow the use of fewer animals to obtain the needed information).

Please state how the number of animals you have requested is the minimum needed in order to obtain valid scientific conclusions.

REFINEMENT of animal use such as modifying manipulations or measurement techniques to reduce the pain and/or distress experienced by the animals as compared to prior techniques, or using less sentient species (e.g., frog instead of mouse, mouse instead of dog).

Please describe why less invasive procedures or procedures which may cause less pain or distress cannot be used.

REPLACEMENT of animals with non-animal techniques (e.g., using tissue culture, computer simulations, etc.).

Please describe why non animal models or invertebrate models will not suffice for your study.

## Adverse Consequences

Describe the expected adverse consequences and how they will be monitored.

## SOP Exemptions

[Click here to view the Guide \(https://grants.nih.gov/grants/olaw/guide-for-the-care-and-use-of-laboratory-animals.pdf\)](https://grants.nih.gov/grants/olaw/guide-for-the-care-and-use-of-laboratory-animals.pdf)

[Click here to view IACUC Policies \(https://www.shsu.edu/dept/office-of-research-and-sponsored-programs/policies.htm#a7609222-c683-41bb-9a4b-c8f4cc2e11de\)](https://www.shsu.edu/dept/office-of-research-and-sponsored-programs/policies.htm#a7609222-c683-41bb-9a4b-c8f4cc2e11de)

Are you requesting any exceptions to the guide or to IACUC policies?

Yes ☐ No ☐

Will Animals be subject to Food and/or Water Restriction?

Yes ☐ No ☐

Will there be any special husbandry requirements?

Yes ☐ No ☐

## Personnel List

Name all Personnel working on this project. All individuals working with animals are required to attend training provided by the IACUC.

| Name            | Business Role          | Phone        | Email           | Organization                 | Department                    | Primary? | Requester? | Edited |
|-----------------|------------------------|--------------|-----------------|------------------------------|-------------------------------|----------|------------|--------|
| Harper, Jim     | Principal Investigator | 936-294-1543 | jmh091@shsu.edu | Sam Houston State University | COSET - Biological Sciences   | No       | No         | Edited |
| Miles, Sharla G | IACUC Staff            | 936-294-4875 | sgf002@shsu.edu | Sam Houston State University | Research & Sponsored Programs | Yes      | No         | Edited |

Business Role

Principal Investigator

Name

Harper, Jim

Organization Department

Sam Houston State University COSET - Biological Sciences

Email

jmh091@shsu.edu

Office Phone

936-294-1543

Cell Phone

Alternate Phone

Home Phone

Pager

Primary Contact?

☐

Copy Primary Contact on all Emails

☐

Will person be handling animal species?

Yes ☐ No ☐

Degrees

BS, PhD

Experience and Qualifications

>25 years working with small animal (rodent and birds) models in both field and laboratory settings

Business Role

IACUC Staff

Name

Miles, Sharla G

Organization Department

Sam Houston State University Research & Sponsored Programs

Email

sgf002@shsu.edu

Office Phone

936-294-4875

Cell Phone

9366509080

Alternate Phone

Home Phone

Pager

Primary Contact?

☒

Copy Primary Contact on all Emails

☒

Will person be handling animal species?

Yes ☒ No ☐

| Species Name | Type       | Procedure Description |
|--------------|------------|-----------------------|
| Mice         | Procedures | Controlled Diet       |
| Mice         | Procedures | Diet Monitoring       |
| Mice         | Procedures | Tail Clipping         |

Degrees

Experience and Qualifications

| Training Event | Description | Type          | Date Certified | Training ID | Certification Flag | Date Completed |
|----------------|-------------|---------------|----------------|-------------|--------------------|----------------|
| Mouse          |             | Online Course | 11/27/2019     | CITI        | Yes                | / /            |



## Databases Searched

*USDA Policies state that alternative searches are required for all animal use Protocols causing pain or distress to animal subjects.*

*Details of the search must include keywords used, years covered, and databases searched. Include:*

- Assurance that proposed research does not unnecessarily duplicate previous research.
- Assurance that proposed research does not offer alternatives to the use of animals in research.

**Is this a Teaching, Demonstration or Breeding protocol?**

Yes ☐ No ☐

## Research Endpoints

**List clinical parameters that would lead to early euthanasia in any of the procedures described in this protocol.**

**\* For Demonstration/Display protocols, include situations where there could be a chance of injury to the animal. Is there an attending veterinarian on call? If not, who can attend to the injured animal?**

**\* If an animal is injured, what provisions exist for removing the injured animal from the public display?**

*For animals not euthanized, check all that apply.*

**Return to Colony**

☐

**Transfer to a Different Project**

☐

**Return to Wild**

☐

**Other (i.e., Adoption)**

☐

**Explain what will happen to any animals not euthanized.**

## Protocol Attachments

*The following is a list of all attachments listed on this Protocol*