**Protocol Number:** Click or tap here to enter text.

**Project Title:** Click or tap here to enter text.

**Renewal Type:** -New Protocol **-**1-yr renewal-3-yr renewal

Notice of Intent to Use Vertebrate Animals

# **Part 1. General Information**

**Principal Investigator:** Click or tap here to enter text.

**Department:** -Biology **-**Psychology-Other (specify): Click or tap here to enter text.

**Office Phone:** Click or tap here to enter text.

**Cell Phone:** Click or tap here to enter text.

**Email Address:** Click or tap here to enter text.

**Proposed Start Date:** Click or tap to enter a date.

**Proposed End Date:** Click or tap to enter a date.

If this is a renewal protocol, when was it first approved by the IACUC? Click or tap to enter a date.

Does this protocol require a three year renewal? -Yes-No

**If yes, when is the three year renewal due?** Click or tap to enter a date.

# **Part 2. Proposed Animal Use**

**NOTE:** In the event that any of the below questions are not applicable to your study please type “Not Applicable” or “N/A”.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Type of use:  -**Research  -Teaching  -Other (specify): Click or tap here to enter text.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**How are animals acquired for this study?**

-Bred in house

**-**Wild caught (e.g. field research)

-Purchased (specify vendor):Click or tap here to enter text.

-Other:Click or tap here to enter text.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Species Information:**

**Species:** Click or tap here to enter text.

**Strain/Breed:** Click or tap here to enter text.

**Sex:** -Female-Male **-**Both

**Other Characteristics (e.g. diabetic, immunosuppressed, etc.):** Click or tap here to enter text.

**Estimated Animal Use:**

**Total number of animals requested for use in this study and/or breeding colony:** Click or tap here to enter text.

**Total number of animals anticipated for use this year:** Click or tap here to enter text.

**Total number of animals used since project start date:** Click or tap here to enter text.

**Maximum number of animals requested in colony rooms at any given time:** Click or tap here to enter text.

**Desired Living Conditions:**

**NOTE:** Living conditions of all animals must/will be appropriate for their species and contribute to their health and comfort as directed by the Guide for the Care and Use of Laboratory Animals and the Institutional Animal Care and Use Committee Guidebook.

**Food/Diet Requests:** -Standard-Other (specify):Click or tap here to enter text.

**Lighting Cycle Requests:** -Standard-Other (specify):Click or tap here to enter text.

**Colony Room Temperature Requests:** -Standard-Other (specify):Click or tap here to enter text.

**Caging/Housing Requests:** -Standard-Other (specify):Click or tap here to enter text.

**Are animals in this study housed individually or together?** -Individually-Together  -N/A  -Other:Click or tap here to enter text.

# **Part 3. Proposal Justification**

**Note:** The following information is required by the IACUC pursuant to its charge by the Office of Laboratory Welfare (NIH) The Guide for the Care and Use of Laboratory Animals, Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals and the US Department of Agriculture (USDA) Animal Welfare Act. Answer each section completely. If the question is not appropriate to your protocol, answer N/A. Answers must be provided on these sheets and not simply provided in an attachment (e.g. grant proposal).

1. **What is the objective of these experiments?** *Please respond in language that can be understood by a layperson. This means minimal use of technical terms and a brief explanation of any specialized terms which you must use.*

Click or tap here to enter text.

1. **How is society likely to benefit, or what new knowledge will be gained from these studies?**

Click or tap here to enter text.

1. **Why must this species be used as opposed to a non-living system or model/simulation?** *Justify the selection of this animal model. The IACUC is mandated to encourage the substitution of vertebrate animals when alternative systems can be used. Describe the characteristics of the species, stock, strain, or mutant that make it important and/or ideal for your investigations.*

Click or tap here to enter text.

1. **Justify the number of animals.** *The IACUC is mandated to minimize the number of animals used. Describe the actions you have taken (e.g. power analyses, pilot studies, methods for minimizing animal loss) to ensure that the minimum number of animals necessary for your study are being used.*

Click or tap here to enter text.

1. **What impact will the research/procedures outlined in this protocol have on the well-being of the animals involved?**

Click or tap here to enter text.

1. **Briefly summarize the design of the animal experiments.** Include pertinent details and timing of all procedures involving animals of the manipulations of animals. Give your best estimate of how many animals will undergo each procedure or manipulation described. For complicated experimental designs, a flow chart, diagram, list or table is strongly recommended to help the IACUC understand what is proposed. Additional documents may be attached to the form.

Click or tap here to enter text.

# **Part 4: Animal Use Appendices**

**NOTE:** Check **all that apply** to the use of animals/research practices in this submission**. Please complete the supplemental information found in the associated appendices** section of this application.

-Breeding **(Appendix A)**

**-**Field Study/Observation or capture of animals from wild populations **(Appendix B)**

-Inducement of Pain or Distress **(Appendix C)**

**-** Anesthetics, injections, immunizations, medications, or drugs **(Appendix D)**

**-**Survival Surgery **(Appendix E)**

**-**Tissue Collection **(Appendix F)**

**-**Scheduled Euthanasia and/or Non-survival surgery **(Appendix G)**

**-**Biohazardous Materials **(Appendix H)**

# **Appendix A. Breeding**

1. **Breeding is being used in this protocol for:  -**Colony maintenance-Research-Other (specify):Click or tap here to enter text.
2. **Who is responsible for pairing animals and what is the procedure for pairing animals?**

Click or tap here to enter text.

1. **Will animals need to be weaned and/or isolated from their parents**  **-Yes  -No**
   1. **If you answered yes to the above question please outline when animals need to be weaned and/or isolated and who will be responsible for this:**

Click or tap here to enter text.

1. **Approximately how many offspring do you anticipate needing to produce this year?**

Click or tap here to enter text.

1. **Approximately how many breeding adults do you anticipate needing this year?**

Click or tap here to enter text.

# **Appendix B. Field Study**

1. **Does this protocol involve the observation or capture of any state or federally listed endangered species, or species of special concern?  -Yes (specify the species):** Click or tap here to enter text. **-No**
2. **If you marked “Yes” to the above question, please outline how you plan to minimize any significant stress, pain, or loss of individuals within this population:**

Click or tap here to enter text.

1. **Does this research require any federal and/or state permitting, or approval from other agencies/land owners?  -Yes (please attach permits/letters of approval to this document)  -No**

# **Appendix C. Inducement of Pain/Distress**

1. **Please check which type of pain/distress animals associated with this protocol will suffer**
   1. **-Type 1: Pain and/or distress will be absent, minimal or momentary**. Examples Include: Breeding, Gavage, Lavage, Injections (as long as the injection does not introduce a pain/distress causing agent), blood collection from a peripheral vein, ear tagging or punching in mice and rats, microchipping or tattooing. **NOTE:** Some Type 2 procedures (e.g. tail/toe clips) may be considered Type 1 up until a certain age.
   2. **-Type 2: Pain and/or distress will be more severe than the classification of minimal or momentary**. Examples Include: Surgical procedures or surgical invasion of a body cavity, some tissue collection methods (e.g. tail clips on non-newborn mice or rats), blood collection by invasive procedures such as intracardiac or periorbital collection, pithing.
2. **What Type 2 procedures, if any, are being performed?**

**-No Type 2 procedures are being performed**

**-Survival Surgery (complete Appendix E)**

**- Tissue Collection (Complete Appendix F)**

**-Other (Specify):** Click or tap here to enter text.

1. **What alternative procedures were considered in place of any Type 2 procedures and why were they rejected?**

Click or tap here to enter text.

1. **Will any Type 2 procedures be performed on an animal without the use of appropriate analgesics or anesthetics?  -Yes  -No**
   1. **If yes, what is the scientific justification for this and will any other methods be used to reduce the time period or level of suffering within the animals?**

Click or tap here to enter text.

# **Appendix D. injections, immunizations, Anesthetics, medications, or drugS**

1. **List all injections, anesthetics, immunizations, medications, or other drugs that will be utilized in association with this protocol. NOTE:** For aquatic submersion methods where dose and concentration are the same, just list this information once.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **1** | **2** | **3** |
| **Anesthetic Agents**  **Name**  **Frequency**  **Dose**  **Route**  **Concentration** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **Analgesics**  **Name**  **Frequency**  **Dose**  **Route**  **Concentration** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **Medications**  **Name**  **Frequency**  **Dose**  **Route**  **Concentration** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **Immunizations**  **Name**  **Frequency**  **Dose**  **Route**  **Concentration** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **Other drugs and/or injections**  **Name**  **Frequency**  **Dose**  **Route**  **Concentration** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

1. **If you are utilizing any anesthetic agents (including hypnotics, sedatives, and/or tranquilizers) how long will animals be animals be maintained under anesthesia prior to the start of a procedure? How will they be assessed to ensure they are in a completely anesthetized state both before and during the duration of the procedure?**

Click or tap here to enter text.

# **Appendix E. Survival Surgery**

**NOTE:** All surgical procedures must be performed using appropriate aseptic procedures and include proper pre-operative and post-operative care of animals as stated in the USDA AWR 9 CFR Pt. 2, Subpart C.

1. **Will any animals undergo a surgical procedure without the use of any anesthetic agents (including hypnotics, sedatives, and/or tranquilizers)  -Yes  -No (If no complete Appendix D)**
   1. **If you answered yes to the above questions you must outline the justification for not utilizing anesthetic agents during procedures:**

Click or tap here to enter text.

1. **Does this protocol involve more than one scheduled survival surgery (i.e. multiple surgeries) on the same animal? Note:** surgeries required as a routine veterinary procedure (outside of the research objectives of this protocol), or to protect the health/well-being of the animal do not count as a scheduled survival surgery. **-Yes  -No**
   1. **If you answered yes to the above questions you must outline the justification for multiple surgeries:**

Click or tap here to enter text.

1. **Please describe the procedure(s) you will be performing below. For each procedure you must describe the expected duration of the procedure, the aseptic procedures you will be following, as well as pre-operative and post-operative methods of care. NOTE:** For cannulae, acrylic implants, venous catheters and other devices which will extend through the skin for longer than 12 hours, explain what wound management measures will be taken to minimize infections at the site of penetration.

Click or tap here to enter text.

1. **Do these procedures require food to be withheld from animals?**

**-Yes (give duration):** Click or tap here to enter text. **-No**

1. **Do these procedures require water to be withheld from animals?**

**-Yes (give duration):** Click or tap here to enter text. **-No**

1. **Who will be performing procedures/surgeries, as well as pre and post-operative care? How has this individual(s) been trained in surgical techniques, pre/post- operative care and monitoring of anesthetized animals?**

Click or tap here to enter text.

1. **If the procedure(s) will normally result in an impairment of the physical or physiological function of the animal, or if analgesia is expected to be incomplete despite best efforts, describe the expected severity and effect on the animals’ welfare.**

Click or tap here to enter text.

1. **What unintended complications may occur as a result of this surgical procedure (e.g., hemorrhage, wound infection, physical impairment, etc.)?**

Click or tap here to enter text.

1. **Describe how complications will be managed and the criteria for termination of the experiment by euthanasia. (Examples of appropriate criteria that should be considered include a weight loss limit as a percentage of initial or expected body weight, allowable duration of anorexia, the presence of health problems refractory to medical intervention, and severe psychological disturbances.)**

Click or tap here to enter text.

1. **Describe the methods that will be taken to humanely euthanize animals in the event that a critical error is made during surgery or that an animal begins exhibiting unbearable pain, distress or illness. How will death be determined? For chemical methods of euthanasia please include the chemical name, dose, route, and concentration of the substance. NOTE:** All methods of euthanasia must be consistent with the methods approved for use by the American Veterinary Medical Association’s Panel on Euthanasia.

Click or tap here to enter text.

# **Appendix F. Tissue Collection**

1. **What type of tissue will you be collecting:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **1** | **2** | **3** |
| **Fluid Tissue Collection**  **Tissue name**  **Volume per collection**  **Frequency of collections per animal**  **Site of tissue collection/method** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| **Solid Tissue Collection**  **Tissue name**  **Frequency of collections per animal**  **Site of tissue collection** | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

1. **Describe the aseptic techniques used during tissue collection.**

Click or tap here to enter text.

1. **Will tissue collection require you to use any animal restraints?**

Click or tap here to enter text.

1. **Will tissue collection cause animals to suffer any more than momentary pain or distress?  -Yes (complete Appendix C)  -No**

Click or tap here to enter text.

1. **Will you be utilizing analgesics or anesthetics in association with tissue collection?  -Yes (complete Appendix D)  -No**
   1. **If you answered No to the above question please list your justification for not using anesthetics or analgesics. NOTE: Anesthetics should be used for tissue collection from live animals when possible and/or when animals will suffer more than momentary pain or distress.**

Click or tap here to enter text.

1. **Will tissue collection occur after euthanasia?  -Yes (Please complete appendix G)  -No (please answer the below questions)**

Click or tap here to enter text.

# **Appendix G. Scheduled Euthanaisa or Non-survival surgeries**

1. **Please describe the non-survival surgery or humane euthanasia methods you will be performing below. How will death be determined? For chemical methods of euthanasia please include the chemical name, dose, route, and concentration of the substance. NOTE:** All methods of euthanasia must be consistent with the methods approved for use by the American Veterinary Medical Association’s Panel on Euthanasia.

Click or tap here to enter text.

1. **Do these procedures require food to be withheld from animals?**

**-Yes (give duration):** Click or tap here to enter text. **-No**

1. **Do these procedures require water to be withheld from animals?**

**-Yes (give duration):** Click or tap here to enter text. **-No**

1. **Who will be performing non-survival surgeries/ euthanasia? How has this individual(s) been trained in proper euthanasia applications?**

Click or tap here to enter text.

1. **How long will animals be maintained under anesthesia prior to the non-survival surgery/euthanasia? How will they be assessed to ensure they are in a completely anesthetized state?**

Click or tap here to enter text.

1. **Will any tissues/body parts be collected following euthanasia?  -Yes (Please complete appendix F)  -No**

# **Appendix H. Biohazardous Materials**

**Please attach a copy of any approval letter(s) and/or permit(s) required for working with these materials to this document. NOTE:** Please consult the Colleges Chemical Hygiene Plan and/or Allen Stowe for questions and guidelines addressing the college’s policies for working with biohazardous materials.

**Mark all pertinent categories:**

-**Infectious agents (specify)**: Click or tap here to enter text.

**-Carcinogens(specify):** Click or tap here to enter text.

-**Radioisotopes (specify)**: Click or tap here to enter text.

-**Recombinant DNA (specify):** Click or tap here to enter text.

-**Other biohazards (specify)**: Click or tap here to enter text.

**Please detail the proper safety procedures that you will be following when working with these materials, and what the potential health and human safety risks are of not following these procedures:**

Click or tap here to enter text.

# **Investigator Assurances and Signature**

•I, First and Last Name , can assure that I am familiar with the animal care and use requirements of the Public Health Service (Policy for the Humane Care and Use of Laboratory Animals), Office of Laboratory Animal Welfare (NIH Guide for The Care and Use of Laboratory Animals), Animal Welfare Act (USDA the Code of Federal Regulations Title 9), and Davidson College policies for animal care and use, and that this investigation will be conducted in accordance with those guidelines and regulations.

•I, First and Last Name, can certify that I am qualified to conduct or direct the animal research outlined in this protocol and accept responsibility for maintaining standards of animal care required by the Animal Welfare Act, including adequately training Laboratory Personnel.

• I agree to abide by the policies of the Davidson College Institutional Animal Care and Use Committee and all applicable federal regulations. Initials

• I will adhere to this protocol and any future approved modifications as described. Initials

• I will submit any modifications of the protocol to the IACUC for review. Initials

• I will notify the IACUC of changes in the location of the animal research. Initials

• I will assist the IACUC in verifying compliance with the regulations. Initials

• If this protocol involves subjecting animals to pain or distress I assure that alternative procedures were considered first but needed to be rejected for reasons outlined in Appendix C. Initials

• I will notify the IACUC of any unexpected results that affect the welfare of the animals. I will report any unanticipated pain or distress, morbidity or mortality to the Animal Care Manager and the IACUC. Initials

• I understand and agree that emergency veterinary care including euthanasia will be administered to animals exhibiting unbearable pain, distress or illness. An effort to contact me (or any pre-established representatives) will be made by the veterinary staff prior to any emergency treatment. Initials

• I declare that all personnel involved in animal use in this project have been or will be trained in proper procedures in animal handling, administration of anesthetics and analgesics, aseptic technique, post-operative monitoring, and euthanasia. Initials

• I declare that all experiments involving live animals will be performed under my supervision or that of an appropriately trained member of my lab. Initials

• I declare that the information provided in this application is accurate. If this project is to be funded by extramural source(s), I certify that this application accurately reflects all relevant procedures involving laboratory animal subjects described in the proposal. Initials

• I declare that the study described here does not unnecessarily duplicate previous work by myself or others. Initials

The following two database searches confirm this assurance:

• **Databases Searched:** Database Name and Database Name

• **Keywords Searched:** Type Keywords here

• **Date search was last conducted:** Click or tap to enter a date.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of Principal Investigator Date

# **IACUC Approval**

**NOTE:** The below is to be completed by members of the IACUC after protocol approval.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of Department Chair Date

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of ACUC Chair Date

Date of full approval: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of approval termination: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_