***INSTRUCTIONS FOR SUBMITTING THE ASU “ANIMAL USE PROTOCOL”***

All protocols must be typed and submitted as a Word document on the **current** protocol form found at <https://researchintegrity.asu.edu/animals/forms>. Standard institutional guidelines (SIGs) for commonly used procedures can be found at <https://researchintegrity.asu.edu/animals/procedures-library-and-guidelines>.

The IACUC meets monthly throughout the year. Protocols must be submitted to the IACUC Compliance Coordinator (iacuc@asu.edu) no less than 15 business days prior to an IACUC meeting in order for the protocol to be reviewed at that meeting. At the time of submission, make sure to:

* **Sign the Assurance Page (IACUC Protocol item VII)**
* **Attach a current curriculum vitae or biosketch for the Primary Investigator.**
* **If the work is funded, list the ASU proposal or award number. In the absence of that information, you will need to attach a copy of the proposal or grant.**
* **If survival surgeries are part of the protocol, submit a surgery checklist to the DACT veterinary team (dactrss@asu.edu). The IACUC office or DACT veterinary team can provide an example upon request.**

The IACUC Compliance Coordinator will send the protocol for veterinary pre-review. Once you have received comments from the veterinarian, it is critical that a revised version of the protocol that addresses all of the comments be returned promptly to the veterinarian. Make sure to make your changes on the copy you receive from the veterinarian and to leave the Veterinarian’s comments in place. When all comments are sufficiently addressed, the veterinarian will then forward the protocol to the IACUC office. *The IACUC office must receive the vet-reviewed version of the protocol no less than 7 days prior to the meeting date, or the committee review may be delayed until the following month.* Since the veterinarian may require multiple revisions by the PI prior to sending it to the IACUC office, it is best to not wait until the deadline to submit your original submission to the IACUC office.

Once the veterinary pre-review is complete, the protocol will be assigned to a committee member who will serve as Primary Reviewer. You may or may not be contacted by the Primary Reviewer before the meeting. **The Principal** **Investigator (or an approved representative thoroughly familiar with the protocol submission) is required to attend the IACUC meeting to participate in the protocol review process.**

**IACUC Meeting Dates:** The IACUC calendar is located at <https://researchintegrity.asu.edu/index.php/animals/protocol-submission>

**Protocol Submission Deadline:** All protocol submissions must be received by the IACUC office a **minimum of 15 business days** prior to the meeting. However, we ***strongly encourage*** submissions much sooner to allow sufficient time for veterinary and primary review prior to the meeting. If a protocol is received in poor condition or if the PI does not respond to reviewer comments in a timely fashion, the committee review may be delayed until the following month. **To assure review at a particular meeting, submit the protocol well in advance of the meeting date (e.g., 4 weeks).**

**Training:** Proper training is required of ALL protocol participants. There are three levels of training, and these are described at <https://researchintegrity.asu.edu/animals/training>. The IACUC Office will verify Level 1 and Level 2 training, as well as clearance by the Occupational Health and Safety Program, as part of the protocol review process. For Level 3 training, **DACT provides hands-on training to participants at no cost!** Alternatively, PIs can have a lab member approved by DACT as a Certified Trainer who can then train others. For questions on training, contact the IACUC Office at 480-965-4387 or IACUC@asu.edu.

|  |  |
| --- | --- |
| IACUC Use Only | **IACUC Protocol #:**       |
| Date:       | [ ]  IBC [ ]  RSC [ ]  Chem |

**ANIMAL USE PROTOCOL**

**ARIZONA STATE UNIVERSITY INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**

**(Revised March 2024)**

Read “Instructions for Submitting the ASU Animal Use Protocol” before completing. **Upon approval, this protocol will become a public record so follow instructions carefully.**

**PROJECT/PROGRAM TITLE**:

**SPECIES REQUESTED**:

**I.** **PERSONNEL INFORMATION**

A. A single member of the university faculty and/or Principal Investigator (PI) is considered the responsible individual.

|  |  |  |  |
| --- | --- | --- | --- |
| NAME:  |       | TITLE:  |       |
| AFFILIATION: |       | Office Phone #  |       |
| Cell Phone #: |       | E-Mail: |       |

B. Additional contact, if any, for IACUC business

|  |  |  |  |
| --- | --- | --- | --- |
| NAME:  |       | TITLE:  |       |
| AFFILIATION: |       | Office Phone #  |       |
| Cell Phone #: |       | E-Mail: |       |

C. Protocol Type

[ ]  Non-funded research

[ ]  Internal Funding

Account Number:

[ ]  External Funding (Grant/Contract)

 Granting Agency:       Deadline:

 Co-Investigator(s):

 Proposal Title:

 ASU Proposal or Award #:

 If, ASU proposal or award number is not provided, attach a copy of the complete proposal or grant document.

 [ ]  Teaching - Course Number and Title:

1. Protocol Status:

[ ]  New

[ ]  Renewal—Previous Protocol #:

[ ]  Revision—Previous Protocol #:

1. Do you plan to use Department of Animal Care & Technologies (DACT) personnel and resources? If yes, describe the support needed? (If this use is new or an expansion of previous use, contact the DACT well in advance of need).

**II. Project Description and Program Requirements**

 The Institutional Animal Care and Use Committee (IACUC) is composed of both active animal users and lay persons. Regardless of background, each member has a vote, so it is particularly important that the language of the application be understood by all. This applies to all sections of the application, but it is especially important that the goals and justifications of the proposed research be spelled out in the clearest possible terms. NOTE: Upon approval, this protocol will become a public record, so do not disclose proprietary information.

1. Provide a brief (300 words or less) synopsis in **NON-SCIENTIFIC TERMS** of proposed research.

B. PLANNED USE OF ANIMALS. Begin with a clear **statement of purpose** and briefly provide **background** information and **references** to previous work (especially if this is a renewal protocol). Include a clear description of the **experimental design** for all animal experiments planned and explain **why** the experiments must be performed. It is critical that for each procedure you provide a detailed sequence of events that effectively describes what happens to the animals from acquisition to euthanasia (if applicable). As the focus of the IACUC protocol is on animal use, do not simply cut and paste research objective statements from grant proposals. Flow charts, diagrams or tables are strongly recommended for complicated experimental designs. State how the research is expected to benefit the human community, the animal community, and/or society as a whole. **Details regarding surgical procedures, drug treatments, and field techniques are not necessary, as they will be addressed later in the form.**

1. RATIONALE FOR INVOLVING ANIMALS AND THE APPROPRIATENESS OF THE **SPECIES AND NUMBER** USED. Keeping in mind the principles of the “3 R’s” (Refinement, Reduction, and Replacement), answer the following:
	1. Why must live vertebrates be used in this study?

* 1. Why are you using the requested species rather than other species?

* 1. What is the rationale supporting the numbers of animals proposed? Typically, a power analysis should be performed to support the proposed sample sizes. A table depicting the number of animals to be used is required.

* 1. What refinements, if any, have been made to reduce the number of animals used and the potential detrimental effects on the study animals?

1. **EMERGENCY CONTACT**
2. Who should be contacted in case of an animal emergency? **Note: This information will be redacted if this protocol is requested as a public document.**

 Name:

 Office Phone #:

Home Phone #:

 Cell Phone #:

1. **DUPLICATION AND ALTERNATIVES PLEASE READ ALL INSTRUCTIONS.**

The Animal Welfare Act requires that you document your justifications with data from **two** or more sources. **One source must be a set of searches of a relevant database: name the database searched, the keyword and keyword combinations searched, the date the search was performed, and the date range searched. The second source can be a set of searches of a second relevant database, or consultation with a laboratory animal science veterinarian, or courses/meetings/consultations with qualified personnel.** Sufficient documentation, such as the consultant's name and qualifications and the date and content of the consult, should be provided to the IACUC to demonstrate the expert's knowledge of the availability of alternatives in the specific field of study. Examples of appropriate databases to search include PUBMED, Web of Science, or Animal Welfare Information Center (AWIC – recommended for USDA-covered species <https://www.nal.usda.gov/awic/databases>).

1. Provide the following details for the most recent literature search used to explore for duplicative research. (The literature search documents that the research will not unnecessarily duplicate previous research). **Teaching protocols do not need to conduct this search.**

Date that search was conducted (*Must be within 60 days of the IACUC review date*):

Database(s) used:

Publication years covered by the search:

Keyword combinations used:

1. Provide the following details for the most recent literature search used to explore for **alternatives to animal use** and **alternatives to painful procedures.**  Alternatives should be considered for any aspect of the protocol that may cause more than momentary or slight pain or distress to the animal. Alternatives to be considered include those that would: 1) refine the procedure to minimize discomfort that the animal(s) may experience; 2) reduce the number of animals used overall; or 3) replace animals with non-animal alternatives (e.g., computer models or tissue culture). **All protocols (research and teaching) MUST conduct this search.**

Date that search was conducted (*Must be within 60 days of the IACUC review date*):

Database(s) used:

Publication years covered by the search:

Keyword combinations used:

1. **Results of literature search for alternatives**: Comment on the application(s) of any identified alternatives (found with your search terms, including how these alternatives may be or may not be incorporated to modify a procedure to either lessen or eliminate potential pain and distress. **All protocols must complete this section and must describe how the literature search results relate to painful procedures and alternatives to animal use.** You must include sufficient information for the IACUC to determine that a reasonable, good faith effort was made to determine the availability of alternatives. If the search identified any alternative methods (ones that could be used to accomplish the goals of the animal use proposal), you must clearly explain and justify why this alternative cannot be used.

For instance, if your search terms retrieved eight publications, summarize how many of those described alternatives to painful procedures and the use of animals.

1. Describe any other procedures (e.g., participation in meetings, review of journals) that are used to explore and evaluate alternatives:
2. Does this research replicate previous work? **(Your answer will be based in part on the literature search above.)**

[ ]  No. Proceed to section **VI.**

[ ]  Yes. Explain why the replication is necessary:

[ ]  Not applicable. This is a teaching protocol.

1. **CATEGORY OF PAIN OR DISTRESS**

**For non-USDA covered species, answer question A only. For USDA covered species, answer question B only.** USDA covered species are all mammals and birds EXCEPT mice, rats, and birds bred for research. All other rodents, including wild mice and rats, are covered.

1. Do the procedures in this protocol have the potential to involve more than slight or momentary pain or distress that will **NOT** be relieved with anesthetics, analgesics, tranquilizer drugs, or other method for relieving pain or distress (e.g., negative conditioning, unrelieved post-surgical pain, death without euthanasia)? [ ]  No [ ]  Yes

If yes, describe and justify (including providing number of animals):

1. Using the table below, list all USDA covered species to be used in the proposed study and indicate the number of animals to be used under each USDA pain category. For an animal undergoing multiple procedures, include the animal under the highest level of pain/distress expected for that animal.

|  |  |  |
| --- | --- | --- |
| USDA Covered Species | Number per USDA Category\* | Total number of animals requested |
| B | C | D | E |
|        |        |        |        |        |        |
|        |        |        |        |        |        |
|        |        |        |        |        |        |
|        |        |        |        |        |        |
|        |        |        |        |        |        |

\*USDA PAIN CATEGORIES: (see <http://researchintegrity.asu.edu/animals/forms> for a more complete description of the below categories)

Classification B: Includes animals that are used solely for breeding or are being acclimatized or held for use in teaching, testing, experiments, research, or surgery but have not yet been used for such purposes.

Classification C: Includes the use of animals in procedures involving no, momentary, or slight pain or distress (e.g., non-invasive parenteral drug delivery, peripheral blood collection, euthanasia, short-term manual or chemical restraint, toe clipping).

Classification D: Includes the use of animals used in procedures that could cause pain or distress but appropriate anesthetics, analgesics, and/or tranquilizing drugs or other methods for relieving pain or distress are used (e.g., surgery, perfusion, administration of irritating chemicals, humane endpoint euthanasia).

Classification E: Includes the use of animals in procedures that have the potential to involve pain or distress that will **not** be relieved with anesthetics, analgesics, tranquilizer drugs, or other method for relieving pain or distress (e.g., negative conditioning, unrelieved post-surgical pain, death without euthanasia).

1. **ASSURANCE**:

The information contained herein is accurate to the best of my knowledge. I have carefully compared the proposed work with the current state of knowledge in this field by reviewing the literature and it is my professional opinion that the proposed work meets high standards of scientific merit. If the study involves pain and distress to the animal, whether or not it is relieved by anesthetics or analgesics, I have (1) reviewed the literature related to this work and have found no significant studies which could make this protocol unnecessarily duplicative, and (2) considered alternatives to animal use and found none available, as described above. Procedures involving animals will be carried out humanely and all procedures will be performed by or under the direction of trained or experienced persons. Any revisions to animal care and use in this project will be promptly forwarded to the Institutional Animal Care and Use Committee for review. Revised protocols will not be used until Committee clearance is received. The use of alternatives to animal models has been considered and found to be unacceptable at this time.

As Principal Investigator, I understand that I will follow [ASU Research and Sponsored Projects Manual 103](https://www.asu.edu/aad/manuals/rsp/rsp103.html), which states that I have primary responsibility for the management of my project in accordance with federal, state, university and sponsor requirements. I take full responsibility and accountability for what happens while this protocol is active. I will ensure that personnel follow the procedures outlined in the protocol, and that only procedures currently approved in the protocol are undertaken until the IACUC has reviewed and approved any proposed changes.

The principal investigator, by signing below, and the IACUC recognize that other medications may be given to the animals for veterinary care purposes. This includes the humane euthanasia of animals in uncontrollable pain or distress as determined by the Attending Veterinarian or the Clinical Veterinarian acting for the Attending Veterinarian. However, the veterinarians will make all efforts to contact and discuss the case with the Principal Investigator or designee prior to making a unilateral decision.

 Principal Investigator –Print Date

 Principal Investigator Signature Date

NOTE: Principal investigators must submit a current curriculum vitae or biosketch that reflects their most recent pertinent experience**.**

**PERSONNEL CHART**

ASU requires that all personnel engaged in animal research or teaching be qualified through training or experience in order to conduct the work humanely. The IACUC requires the following training:

* **Level I Basic** – Required of ALL participants (must be renewed every 4 years)
* **Level II Species-Specific** – Required for each participant that will have direct contact with that species (must be renewed every 4 years)
* **Level III Hands-on Training** – Required to perform specific procedures independently. Training can be received from DACT staff or PIs can have a level III certified member of their lab complete initial training. Being Level III certified does not allow the certification of others. DACT can authorize members of the lab to be an authorized trainer after observing a training session. If the lab does not have an authorized trainer, the DACT veterinary team can provide the final training and certification. A Level III Certification form must be submitted to the IACUC office by the person providing the training within 5 days of the training.

You can access the training modules at <https://asu.co1.qualtrics.com/jfe/form/SV_b2b2XRXRRs1309f>. See the IACUC web site (<https://researchintegrity.asu.edu/animals/training>) for more information on training and Level III forms.

**\* Procedures other than husbandry, handling, or behavioral testing MUST be performed under supervision unless the person is Level III certified to conduct the procedure independently.  Certification can only be provided by the DACT veterinary team or someone the team has authorized as a trainer. Personnel are not Level III certified until the IACUC has reviewed and approved the Level III training documentation.  The PI is responsible for ensuring that personnel, including themselves, who are not Level III certified are supervised at all times.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Title | ASURITEname | Role in Protocol | Species with which individual will have direct contact (“none, “all”, or list species) | FOR IACUC USE ONLYTraining and OHSPConfirmation |
| What activities will each person perform on live animals **ONLY** while under direct supervision? | Which of these activities will each person be involved in without supervision? ***Behavioral testing may require additional training verification, depending on the tasks.*** | What additional activities will each person be allowed to perform **independently** (including appropriate Level 3 certification\*) at the time of protocol submission? |
|       | PI |       |       | [ ]  Husbandry[ ]  Handling[ ]  Behavioral Tasks |       |       |  |
|       |       |       |       | [ ]  Husbandry[ ]  Handling[ ]  Behavioral Tasks  |       |       |  |
|       |       |       |       | [ ]  Husbandry[ ]  Handling[ ]  Behavioral Tasks |       |       |  |
|       |       |       |       | [ ]  Husbandry[ ]  Handling[ ]  Behavioral Tasks |       |       |  |
|       |       |       |       | [ ]  Husbandry[ ]  Handling[ ]  Behavioral Tasks |       |       |  |

Identify any trainers who have been authorized by the DACT Veterinary Team to certify lab personnel.

For each individual, describe the individual’s years of experience with all listed species and procedures they will be conducting under this protocol. For procedures for which they are not yet trained, but will likely be trained to do during the activity period of this protocol, provide a description of who will provide such training:

**DETAILED USE OF ANIMALS**

## **This section must be completed for each species used.**

(additional Detailed Use of Animals forms can be found at <https://researchintegrity.asu.edu/animals/forms>)

**Common Name:**

**Scientific Name:**

1. **ANIMAL INFORMATION**
2. Is this a threatened or endangered species?

 [ ]  No. Proceed to section I. B.

 [ ]  Yes. Describe why this work must be done on this species and why the project will not have a significant negative impact on the species:

B. Maximum # of animals to be used over the 3-year life of the protocol:

|  |
| --- |
|  |

C. Sex:       Age or Weight Range:

1. Source (e.g., commercial, in-house breeding, captured from wild):
2. List all labs and/or rooms **outside of the ASU centralized vivaria** where youintend to keep or use live animals in connection with the animal use covered under this protocol.  This list is for IACUC information to assure each location is inspected semi-annually.  **Listing rooms here does not assure approval of this space for use**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Building | Room # | Max Length of Stay | Method of Transport | Purpose |
|       |       |       |       |       |

1. If you use DEA-controlled substances, list the location where they are stored (building and room number). If you acquire controlled substances from DACT for same day use, state this. The IACUC is required to inspect all controlled substance storage locations semi-annually.

**II.** **MAJOR CATEGORIES OF USE**

1. Will animals be immunized solely for the production and harvesting of antibodies to be used in vitro rather than as a vaccine study?

[ ]  No. Proceed to section II. B.

[ ]  Yes. Complete the following table.

Injection:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Volume of injectate | Adjuvant | Route | Min. Frequency | Max. # of injections |
|       |       |       |       |       |

Collection: If terminal, check here [ ]  otherwise complete the following.

|  |  |  |  |
| --- | --- | --- | --- |
| Route | Max. Volume | Min. Frequency | Max. # of collections |
|       |       |       |       |

1. Will tissues, blood, or other body fluids be harvested (other than for antibody production)?

[ ]  No. Proceed to section II. C.

[ ]  Yes. Will tissues, blood, or other body fluids be collected post-mortem only?

[ ]  Yes. Proceed to section II.C.

[ ]  No. Complete Appendix 1: Antemortem Specimen Collection.

1. Will animals be food restricted (calorically or specific constituents) other than prior to anesthesia?

[ ]  No. Proceed to section II. D.

[ ]  Yes. [note: restriction paradigms exceeding a single 24-hr period must follow the ASU IACUC Standard Institutional Guideline for Food and Water Restriction available at https://researchintegrity.asu.edu/index.php/animals/procedures-library-and-guidelines

1. What are the restriction parameters? Provide scientific justification and include the length of restriction.

2. How will you monitor for negative effects of food restriction (include information on how you will account for animal growth)?

1. Will animals be water restricted?

[ ]  No. Proceed to section II. E.

[ ]  Yes. [note: restriction paradigms exceeding a single 24-hr period must follow the ASU IACUC Standard Institutional Guideline for Food and Water Restriction available at https://researchintegrity.asu.edu/index.php/animals/procedures-library-and-guidelines

1. What are the restriction parameters? Provide scientific justification and include the length of restriction.

2. How will you monitor for negative effects of water restriction (include information on how you will account for animal growth)?

1. Will animals be exposed to trauma, injury, burning, freezing, electric shock, UV radiation, magnetic fields, lasers, loud noise, or other physical agents that might cause distress?

[ ]  No. Proceed to section II. F.

[ ]  Yes. List and justify each exposure.

Provide scientific justification:

1. Will animals be exposed to environmental stress (e.g., non-natural temperature exposure, prolonged physical restraint, forced exercise)?

[ ]  No. Proceed to section II. G.

[ ]  Yes. List and scientifically justify each exposure.

1. Will animals undergo surgery?

[ ]  No. Proceed to section II. H.

[ ]  Yes. Complete Appendix 2: Surgical Procedures.

1. Will any animals have a device (e.g., thermocouple, cannula, electrode) that extends chronically through the skin?

[ ]  No. Proceed to section II. I.

[ ]  Yes. Describe wound management measures to minimize chances of infection around the device where it penetrates the skin:

1. Will individuals of a social species (e.g., most rodents) need to be housed singly at any time?

[ ]  No. Proceed to section II. J.

[ ]  Yes.

* + 1. What would be the maximum duration that an individual would be singly housed? Provide scientific justification for singly housing for this duration:

* + 1. Singly housed animals should receive additional enrichment. Describe what enrichment will be provided or scientifically justify why additional enrichment cannot be provided:

1. Will animals need any other special husbandry considerations, including but not limited to altering standard cage type, cage change frequencies, housing temperature, or lack of enrichment?

[ ]  No. Proceed to section II. K.

[ ]  Yes. Describe special procedures and provide scientific justification:

1. Will animals be transported off campus (e.g., to/from the field, or between institutions) in a vehicle other than one owned by the DACT?

[ ]  No. Proceed to section II. L.

[ ]  Yes. Describe details (e.g., vehicle to be used, destinations, and driven by whom), read the IACUC *SIG - Off-campus Transport of Animals by Laboratory Personnel*, and complete and submit with this protocol the *Assurance to Abide by the Requirements for Transporting Live Animals*:

1. Will any work be conducted in the field (this includes field experiments or the capture of animals to be used in laboratory experiments)?

[ ]  No. Proceed to section II. M.

[ ]  Yes. Complete Appendix 3: Field Research.

1. Will any animals need to be individually identified?

[ ]  No. Proceed to section III.

[ ]  Yes. Describe the marking technique to be used, why that technique was chosen, how it will be performed, and on what age range of animals?

**III. CHEMICALS AND OTHER POTENTIAL HAZARDS**

*(If you answer yes to any of the following questions, this information may be forwarded to another oversight unit to aid you in assuring safe practices. Approval by these units or additional training may be required prior to using any of these materials)*

1. Will drugs or chemicals be used with animals?

[ ]  No. Proceed to section III. B.

[ ]  Yes. For each drug or chemical, list the agent, dose, route, purpose, and grade in the table below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Agent** | **Dose** | **Route** | **Purpose** | **Frequency** | **Pharmaceutical grade (Y/N)?** | **Is this a DEA controlled substance (Y/N)?** |
|       |       |       |       |       |       |       |
|       |       |       |       |       |       |       |
|       |       |       |       |       |       |       |
|       |       |       |       |       |       |       |

1. For each drug or chemical that is not pharmaceutical grade:
	1. Indicate whether no pharmaceutical grade equivalent exists or provide scientific justification for using the non-pharmaceutical grade product.

* 1. Provide the source and vendor item number (if there is one) for each non-pharmaceutical grade product even if there is no pharmaceutical alternative.

* 1. Describe the means by which you ensure the purity, sterility and pH of each non-pharmaceutical product are compatible with use in live animals.

If there is any uncertainty about the proposed product or its properties, the IACUC may require you to inform the DACT veterinary team prior to first using each non-pharmaceutical grade compound to assess the possibility of negative effects on the animal.

1. Does this project involve transgenic, knockout, or knock-in animals?

[ ]  No. Proceed to section III. C.

[ ]  Yes. List the strains, any special care needs, and any expected clinical signs that are associated with the strain. Transgenic animals need to be covered by an IBC disclosure.

1. Does this project involve the use of biohazardous agents in animals (microorganisms, microbial toxins, recombinant DNA)?

[ ]  No. Proceed to section III. D.

[ ]  Yes. List the agent, as well as concentration, dose, and route if applicable.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Agent**  | **Concentration** | **Dose** | **Route** | **ADMIN. USE ONLY** |
| **ABSL** | **IBC # if Req’d** |
|       |       |       |       |       |       |
|       |       |       |       |       |       |

1. Does this project involve irradiation or the use of radiological material in animals?

[ ]  No. Proceed to section III. E.

[ ]  Yes. List the agent, dose, route, and purpose in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Agent** | **Dose** | **Route** | **Purpose** |
|       |       |       |       |
|       |       |       |       |

1. Provide the date of **Radiation Safety Committee** approval:

1. Describe any health hazards to **researchers** and include a description on how the risk is mitigated or managed:

1. Describe any health hazards to **animals** and include a description on how the risk is mitigated or managed:

**IV. DETRIMENTAL SEQUELAE**

1. Will animals possibly experience clinical signs intentionally or as a possible side effect of the study?

[ ]  No. Proceed to section V.

[ ]  Yes. Complete the following.

|  |  |  |
| --- | --- | --- |
| Possible Clinical Effect | Probability of Occurrence | Treatment |
|       |       |       |

**V. END POINT CRITERIA**

1. What clinical signs will be used as a basis for removal of an animal from the study?

**VI**. **EUTHANASIA**

A. List the primary method of euthanasia:

B. If using a chemical or gas, complete the chart below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Agent** | **Dose** | **Route** | **Is this a DEA controlled substance (Y/N)?** | **Secondary method used to confirm euthanasia** |
|       |       |       |       |       |

C. If euthanasia is being done by a physical means (e.g., decapitation, cervical dislocation) without anesthesia, provide scientific justification:

 **APPENDIX 1: ANTEMORTEM SPECIMEN COLLECTION**

1. **BLOOD COLLECTION**
2. Will blood be collected?

[ ]  No. Proceed to section II.

[ ]  Yes. Complete the following.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Site | Volume (ml) | % BW | Max. # of collections | Min. Interval |
|       |       |       |       |       |

B. Will anesthetics, sedatives, or other drugs be used during blood collection?

[ ]  No. Proceed to section I. C.

[ ]  Yes. Complete the following.

|  |  |  |  |
| --- | --- | --- | --- |
| Drug | Dose | Route | Purpose |
|       |       |       |       |

C. Describe the methods used to draw the blood including physical restraint, if any.

D. Provide scientific justification for blood collection and justification for the frequency of it.

1. **OTHER TISSUE/BODY FLUID COLLECTION**
2. Will other tissues or body fluids be collected prior to death?

[ ]  No. Appendix 1 is completed.

[ ]  Yes. Complete the following. Surgical procedures should be described more fully in Appendix 2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tissue/Fluid | Site and Method | Amt | # of collections | Min Interval |
|       |       |       |       |       |

B. Will anesthetics, sedatives, or other drugs be used during tissue/body fluid collection?

[ ]  No. Proceed to section II. C.

[ ]  Yes. Complete the following.

|  |  |  |  |
| --- | --- | --- | --- |
| Drug | Dose | Route | Purpose |
|       |       |       |       |

C. Describe the methods used to collect the samples, including physical restraint, if any.

D. Provide scientific justification for the sample collection(s) and justification for the frequency of it.

**APPENDIX 2: SURGICAL PROCEDURES**

1. **GENERAL INFORMATION**
2. Species

1. Surgical Procedure(s)

1. Room/location of surgery

1. **PRE-SURGICAL CARE**
2. Will the animals undergo pre-surgical fasting?

[ ]  No. Proceed to section III.

[ ]  Yes. Provide the details:

1. **SURGICAL PROCEDURE**:

[ ]  Survival [ ]  Nonsurvival

**\*Note:** A surgical checklist is recommended for each survival surgery, and possibly non-survival surgeries. These checklists should be submitted to DACT’s veterinary team (dactrss@asu.edu) for review before implementing procedures.

1. Describe each surgical procedure (e.g., approach, tissue manipulation, closure):

B. Anesthetic regimen:

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug & concentration (e.g., mg/ml)** | **Dose (e.g., mg/kg) & maximum volume to be given** | **Route** | **Pharmaceutical grade (Y/N)?** |
|       |       |       |       |
|       |       |       |       |

Note: Use of gas anesthetics requires completion of the EH&S-based Anesthetic Gas Safety training prior to use and refreshed annually.

1. Describe measures used to indicate a surgical plane of anesthesia to keep animals from getting too light or too deep:

C. Additional pharmacological agents used during surgery (include analgesics, supportive medications, and research drugs):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Drug and concentration** | **Dose & max volume** | **Route** |  **Purpose** | **Frequency** | **Pharmaceutical grade (Y/N)?** |
|       |       |       |       |       |       |
|       |       |       |       |       |       |

1. Describe the steps taken to maintain an aseptic surgery:

1. What is the maximum duration of each surgery?

1. Will any animals recover from surgery?

 [ ]  No. This involves terminal, or non-survival, procedures; Appendix 2 is complete.

[ ]  Yes. Complete Section IV.

1. **POST-SURGICAL CARE**
2. Is there a potential for post-operative pain or distress?

[ ]  No. Proceed to section C.

[ ]  Yes.

1. Will analgesics be used?

(For analgesic options, refer to the IACUC Standard Institutional Guideline on analgesia (<https://researchintegrity.asu.edu/animals/procedures-library-and-guidelines>) or contact a DACT veterinarian.

[ ]  No. Provide a scientific justification:

[ ]  Yes. Complete the following.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Drug & concentration** | **Dose & max. volume** | **Route** | **Frequency** | **Pharmaceutical grade (Y/N)?** |
|       |       |       |       |       |

Who will administer these drugs?

C. Post-operative routine care:

i. What other drugs will be administered, if any (e.g., antibiotics, fluids)?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Drug & concentration** | **Dose & max. volume** | **Route** |  **Purpose** | **Frequency** | **Pharmaceutical grade (Y/N)?** |
|       |       |       |       |       |       |

ii. What other post-operative support and monitoring will be provided, how often, for how long, and by whom?

D. Is post-operative intensive care required?

[ ]  No. Proceed to section E.

[ ]  Yes.

What special care is required?

Who will provide special care and what are their qualifications?

For how long will special care be needed?

E. Will animals undergo multiple survival surgical procedures?

[ ]  No. Appendix 2 is complete.

[ ]  Yes. Describe which surgeries, the sequence (specifying time between surgeries), and frequency. Provide scientific justification:

**APPENDIX 3: FIELD RESEARCH**

**I. General Information**

1. Species
2. Common name(s):
3. Scientific name(s):
4. Where will the field work be conducted?

1. What permits, if any, are required, and have they been acquired yet?

*[NOTE: it is the responsibility of the PI to (1) identify all permits and licenses that are required to conduct the proposed work, (2) have those documents issued prior to beginning the work, (3) abide by all limitations and restrictions outlined in those documents, and (4) renew the documents as needed throughout the course of the work]*

**II. Capture**

1. Describe capture methods.
2. Is there a chance of incidental capture of non-target individuals (same or different species)?

[ ]  No. Proceed to item II.C.

[ ]  Yes.

1. List the most likely animals to be incidentally captured and estimate their numbers.

1. What is done to minimize incidental capture?

1. What will be done with incidentally captured individuals?

1. How will you monitor pain/distress of captured animals, and how will signs of pain or distress be dealt with?

1. What is the expected mortality rate for both target and incidental captures?

1. **Holding**
2. Will animals be held in captivity beyond processing at the site of capture?

[ ]  No. Proceed to item IV.

[ ]  Yes.

1. What is the maximum duration of housing?

1. Will animals be housed at a location not on the ASU campuses?

[ ]  No. Proceed to item IV.

[ ]  Yes.

1. Describe the housing (e.g., location, enclosure, temperature).

1. Describe the care (e.g., food provisioning, water provisioning, enclosure cleaning).

1. **Transport**
2. Will animals be transported away from the field site where collected?

[ ]  No. Proceed to item V.

[ ]  Yes.

1. To where will the animals be transported, and what is the maximum duration of transport?

1. Describe the transportation (e.g., vehicle, confinement, environmental control).

1. **Animal Disposition**
2. Will animals be released back into nature?

[ ]  No. Proceed to item V.B.

[ ]  Yes.  *[NOTE: release must be at the site of capture unless experimentally justified here]*

What criteria are used to determine whether animals will be released?

B. How will any carcasses in the field (as a result of intended euthanasia or unexpected mortality) be disposed of?

1. **Safety**

*[NOTE: a copy of the ASU “Safety Guidelines for Field Researchers” is available at* [*https://www.asu.edu/ehs/documents/field-researchers-manual.pdf*](https://www.asu.edu/ehs/documents/field-researchers-manual.pdf)*]*

1. Describe the training to inform field workers of risks (e.g., zoonotic, environmental, physical).

1. Describe any safety precautions (e.g., vaccinations, protective equipment, cell phones, working in teams) used during the field work.