Protocol No: Click here to enter text.



 Approval Date: Click here to enter text.

 Amendment#: Click here to enter text.

|  |
| --- |
| **IACUC Animal Use Protocol Major Amendment Form** |

**For Assistance, Contact:** **Amy\_Finneral@uml.edu** **Tel:** 978-934-4698

**A. General Information**

|  |  |
| --- | --- |
| **PI Name:** |       |
| **Initial Protocol Approval Date:** |       | **Amendment Number:**       |
| **Contact Phone No :** **and Emergency Contact No.:**  |       |
| **Protocol Title:** |       |

**B. Reason for Amendment**

Please check the boxes below that are relevant for the changes requested. Provide additional information in the related section(s) of the form.  **For sections that are not relevant, check ‘(X) Not Applicable’ for those sections.**

( )Study objectives are different

( ) Surgery becomes non-survival to survival

( ) Procedures are more invasive than initially proposed

( ) Increased pain, discomfort, or distress to animal

( ) Increased proportion of expected animal deaths

( ) Change or addition of a species

( ) Anesthetic agents

( ) Hazardous agents will be administered to animals

( ) Use or withholding of analgesia

( ) Duration, frequency of number of procedures performed

( ) Change in PI

( ) Change method of euthanasia (See Sec. M)

( ) Change in number of animals (≥ 10% of the original approved request for mice and rodents or non-traditional species or one of any USDA covered species)

**C. Verification of other Regulatory Approvals ( ) Not Applicable**

 ( ) Institutional Biosafety Committee (IBC)

 ( ) Environmental Health and Safety (EHS)

 ( ) Radiation Safety Committee (RSC)

 ( ) Other, explain:

**D. Emergency Interventions/Therapeutic Restrictions ( ) Not Applicable**

In an emergency, animals will be treated by the Animal Research Compliance Manager and/or Attending Veterinarian to relieve suffering or be euthanized, if deemed necessary. Investigators will be contacted prior to diagnostic testing, therapy, or euthanasia whenever possible. In the event that contact is not possible, please respond below.

 ( ) No therapeutic restrictions exist and I authorize treatment as necessary.

 ( ) Since therapeutic restrictions may exist, the research staff will contact the Animal Research Compliance Manager regarding treatment options.

***Note:*** *If emergency euthanasia is necessary, specimens will be saved if prior arrangements have been made with Animal Research Compliance Manager or facility staff.* (Contact Amy\_Finneral@uml.edu).

**E. Justification for Change in Species ( ) Not Applicable**

**1. Species and Number of Animals Originally Approved:**

**2. Type(s) of NEW Species and Numbers Requested:**

**3. Justification for New Species** (Explain why the particular animal model was selected. Describe theunique characteristics that the new species has that are necessary for your investigations. The description needs to be understandable to a lay person.

**F. Justification for Change in Number of Animals ( ) Not Applicable**

**1. Number of Animals requested to be changed from\_\_\_\_\_\_\_\_\_\_\_(current approved #) to\_\_\_\_\_\_\_\_\_\_\_\_\_\_:**

**2. Justification for the Number of Animals Requested by Experiment**

Explain how the new number of animals to be requested was determined. Include justification for the group sizes, the number of groups per experiment, the number of repetitions, etc. The number of animals should be the minimum number required to obtain statistically valid results. Please include a description of the statistical analyses, including tests, power and probability levels utilized, if applicable. Include which animals belong in which pain/distress category (C, D, or E). You are strongly encouraged to include a table or flowchart.

**3. Number of Animal Obtained From Breeding**

Provide a table/chart that organizes the number expected from breeding. Include all parents and offspring not directly used in experimental procedures. Include how many litters per female, how many animals born that are culled, and the litter size. The IACUC suggests estimating high for 10 pups per pregnancy, if unknown. Please use this guideline or give justification for a different estimate. All animals born have to be accounted for in the protocol even if not used in the experiments.

**4. Assessment of Pain and Distress**

For each species, list the number of animals that will be utilized per USDA category and then total the number of animals requested. **Remember to include all animals used for breeding/maintenance in the total.**

 USDA Category C – Procedures with minimal, momentary, or no distress.

 USDA Category D – Use of appropriate anesthetics, tranquilizers, or analgesics to alleviate pain and/or distress.

 USDA Category E – Animals may experience unrelieved pain and/or distress without intervention.

**If NO change in Pain or Distress from original protocol, please check ( )**

|  |  |  |  |
| --- | --- | --- | --- |
| **Species name** |       |       |       |
| **Category C** |       |       |       |
| **Category D** |       |       |       |
| **Category E** |       |       |       |
| **Total number requested** |       |       |       |

**G. Change in Procedure ( ) Not Applicable**

**1. List procedures to be added or changed:**

**2. Describe and justify each new procedure/experiment.** (For survival surgeries, please describe and provide justification but put details in the Surgery Description Section.)

**3. Assessment of Pain and Distress. Note: Only complete this table if you are changing or adding a PROCEDURE that involves a different USDA Pain Category.**

**Check here to verify the procedure you are adding or changing does NOT change the USDA Pain or Distress Category as originally approved. : ( )**

For each species, list the number of animals that will be utilized per USDA category and then total the number of animals requested. **Remember to include all animals used for breeding/maintenance in the total.**

 USDA Category C – Procedures with minimal, momentary, or no distress.

 USDA Category D – Use of appropriate anesthetics, tranquilizers, or analgesics to alleviate pain and/or distress.

 USDA Category E – Animals may experience unrelieved pain and/or distress without intervention.

|  |  |  |  |
| --- | --- | --- | --- |
| **Species name** |       |       |       |
| **Category C** |       |       |       |
| **Category D** |       |       |       |
| **Category E** |       |       |       |
| **Total number requested** |       |       |       |

**4. Justification for Category E.** Procedures (if applicable). Please provide a scientific justification to explain WHY the use of anesthetics, analgesics, sedatives or tranquilizers during and/or following painful or distressing procedures is contraindicated. **(Also complete Section O-literature search)**

**H. Procedure Details ( ) Not Applicable**

**(Section O must also be completed for all new procedures)**

**1. Experimental Administration** – if more than one substance is being administered, please copy the table(s) below for each.

|  |
| --- |
| **Parenteral administration (injection, infusion, implantation):** |
| 1) Name of substance administered:  |       |
| 2) Volume:  |       |
| 3) Site of injection & how injection is performed (needle size, etc.): |       |
| 4) Dosage, if appropriate: |       |
| 5) Verify how sterility of the substance is ensured: | ( ) | Confirm USP/pharmaceutical grade; or |
| ( ) | If non-pharmaceutical-grade, confirm: |
|  ( ) | 0.2 μm medical grade filtration |
| ( ) | other:       |  |

|  |
| --- |
| **Enteral administration (oral, gastric):** For each substance administered orally, please provide the following:  |
| 1) Name of substance administered : |       |
| 2) Dose: |       |
| 3) Volume:  |       |
| 4) Method of administration (including site of administration and gavage needle gauge, if applicable:  |       |
| 5) Frequency/duration of administrations: |       |

**2. Blood and/or Body Fluid Collection.**

Check the UML Guidelines for Handling, Restraint, Injection, and Blood Collection from Small Laboratory Animals for maximum volume that can be withdrawn per timeframe.

|  |  |
| --- | --- |
| 1) Blood draw procedure(s) and anatomical area used  |       |
| 2) Total amount for each blood draw  |       |
| 3) Maximum number of draws/animal  |       |
| 4) Frequency of draws/animal  |       |
| 5) Provide maximum volume drawn and timeframe  |       |

**3. Implants**

|  |  |
| --- | --- |
| 1) Type and material of implant  |       |
| 2) Site(s) of implantation  |       |
| 3) Size of implant |       |
| 4) Method of sterilization  |       |
| 5) Length of time of implantation  |       |
| 6) Removal procedure (N/A, if post-mortem) |       |

**4. Behavioral Tests**

|  |
| --- |
| **BEHAVIORAL TESTS** |
| Name of Behavioral Test | Duration of testing/training | Time required/session | Frequency of sessions |
|       |       |       |       |
|       |       |       |       |
| **METHODS USED** |
| 1) Please describe the goals and performance expected for each test: |
|       |
| 2) Will an apparatus be used? | ( )No ( )Yes |  If yes, please describe below.  |
|       |
| 3) Will aversive stimuli be used? |  ( )No ( )Yes | If yes, describe the stimuli and its intensity, duration and frequency of administration below. |
|       |
| 4) Please describe limits to deprivation or aversive stimuli if desired response does not occur: |
|       |
| 5) Will rewards be used? |  ( )No ( )Yes |  If yes, please describe below: |
|       |
| 6) Please describe other techniques to be used below, if applicable: |
|       |

**5. Experimental Tumor Growth**

|  |  |
| --- | --- |
| 1) Indicate if spontaneous neoplasia or induced tumor? (*If spontaneous growth, then skip to #5):* |       |
| 2) Identity and source of the tumor:  |       |
| 3) Is the tumor of **rodent origin** or has it passaged **in rodents**? |  ( )No ( )Yes |
| If **yes,** confirm here ( ) that it has been tested for contamination with adventitious agents.If **no,** you must submit tumor samples for evaluation. For more information, please contact Dr. Perkins at scott.perkins@tufts.edu |
| 4) Is the tumor of **human origin**?  |  ( )No ( )Yes |
| If **yes,**IBC approval must be obtained **prior to use.***Human source materials require IBC approval.*  |
| 5) Provide primary site(s) of anticipated tumor growth and any expected sites of metastasis, if applicable. |       |
| 6) Provide method of measuring tumor growth |       |
| 7) Provide maximum size and dimension of tumor  |       |

|  |
| --- |
| **6. Details of Anesthesia, If Not Used for Surgery. (**Include dose (mg/kg), frequency, and route of administration.) |
| Anesthesia is used for → |       |
| Pre-anesthesia |       |
| Anesthesia |       |
| Anesthetic maintenance |       |
| Method(s) used to monitor anesthetic depth |       |

**7. Other, describe in detail:**

**I. Post-Procedural Care and Monitoring ( ) Not Applicable**

**1. What adverse effects may occur as a result of the procedures to the animals?** Describe distress, pain, significant discomfort, morbidity, etc. If adverse effects occur, include a description of how will they be **alleviated**:

**2**. **Humane endpoint criteria** (e.g. tumor size, % body weight gain/loss, body condition, inability to eat or drink, behavioral abnormalities, clinical symptoms, signs of toxicity, etc.) **must be specified when the experimental manipulations could cause significant adverse effects or are potentially lethal.** Clearly list the criteria used to determine when euthanasia will be performed even if prior to the experimental endpoint:

|  |
| --- |
| **3. Describe the frequency and the length of the time that ALL animals will be observed in order to evaluate pain/distress during the lifespan of the protocol?** Be clear about increasing the frequency of observations during the time course of an experiment, if appropriate. Also, provide information about the general observation for animals during any time periods they are not involved in experiments, if applicable.  |
| **Procedure name** | **Frequency of observations/monitoring** **& weighing** (if applicable) | **Criteria used to assess declining health**(e.g. weight loss, dyspnea, ruffled fur) |
|       |       |       |
|       |       |       |
|       |       |       |

**J. Surgery Information ( ) Not Applicable**

*If more than one surgery is being added, please copy the table below and answer questions A-F for each individual surgery****.***

|  |  |
| --- | --- |
| **1) Name of surgery:**   | Confirm if **( )**survival or **( )**terminal  |
| **2) Check the relevant boxes for this surgery:** **( )** Disinfection of the surgical area/table.  **( )** Surgeon is properly prepared for each surgery (includes, at a minimum, sterile gloves, mask, and lab coat). **( )**Animal is appropriately prepped for surgery by the following steps: 1.Removal of the fur/hair2. Disinfectant/ethanol wipe of the skin (3x for each scrub).3. Provision of eye lubricant  **( )** Thermoregulation is provided while the animal is under anesthesia. **( )** All animals are monitored continuously while under anesthesia. |
| **3) Anesthetic details** [include dose (mg/kg), frequency, and route of administration] |
| Pre-anesthesia |       |
| Anesthesia |       |
| Anesthetic maintenance |       |
| Methods used to monitor anesthetic depth |       |
| **4) How are the surgical instruments sterilized for each animal?** |
|       |
| **5) Describe the surgery in detail including the opening, all manipulations, and the closure and suture information.** |
|       |
| **6) Analgesic regimen** *(for survival surgeries, initial dose must be given prior to incision)* |
| Name of surgery |       |
| Analgesic used |       |
| Dose and route of injection/administration |       |
| Frequency and length of time provided |       |

**K. Care and Monitoring Specific to Surgery ( ) Not Applicable**

**1. Explain what adverse effects may occur as a result of the surgery(ies) to the animals.** Describe the methods used to avoid tissue infection, inflammation, erosion, or accidental removal of any implants, if applicable. Provide an estimated time for which it is expected the adverse effects will be alleviated if present:

**2**. **Humane endpoint criteria specific to the surgery(ies).** Clearly list the criteria used to determine when euthanasia will be performed even if prior to the experimental endpoint:

**3. Explain the frequency and the length of the time that the surgery animals will be observed in order to evaluate pain/distress.** Post-operative monitoring is required daily for 3 days after surgery, with the day of surgery considered Day 0. Daily monitoring is required and must be documented on the surgery card (for rodents) or in the medical records (for large animals).

**L. Regulatory Exceptions ( ) Not Applicable**

Please read all questions below. If you answer yes to any, **please provide a scientific justification** in the space provided. If a statement does not apply, please write “N/A.”

|  |
| --- |
| 1. Are multiple major survival surgeries performed on the same animal? Include the timeframe between surgeries. |
|       |
| 2. Is any non-standard caging necessary for this protocol (e.g. metabolic, enrichment, behavioral, etc.)? Justify the conditions necessary and explain how husbandry will be performed and who will be responsible. |
|       |
| 3. Is any specialized husbandry necessary (additives in the water, special food, cage-changing frequency, etc.)?Justify the conditions necessary and explain how husbandry will be performed and who will be responsible. |
|       |
| 4. Will water or food be restricted during any portion of the project? Please see *IACUC Policy on Food and Water Restriction* for specific protocol requirements. |
|       |
| 5. Are unanesthetized animals restrained for **30 minutes or longer**? Indicate the method, duration, and frequency. Please see *IACUC Policy for Physical Restraint.* |
|       |
| 6. List and justify the use of any non-pharmaceutical grade/non-USP substances.  |

**M. Disposition of Animals Following Study ( ) Not Applicable**

*This section must be completed for each new procedure and/or species.* Provide details of euthanasia for each species. **Even if the experimental plan does not include euthanasia, protocols must include an emergency plan in case euthanasia becomes necessary.**No animal may be given away without permission from DLAM.

* Please check the applicable boxes below and complete the table as appropriate.
* If an inhalant is selected as the euthanizing agent, a secondary method of euthanasia is required.

**( ) No change in euthanasia method(s) from current protocol.**

**( ) NEW type of euthanasia method is requested below.**

|  |  |  |
| --- | --- | --- |
| **Species name** |       |       |
| **Primary euthanasia method** |       |       |
| **Secondary euthanasia method** | **( )** Cervical dislocation, decapitation, thoracotomy or major organ removal will be performed following the primary method  | **( )** Cervical dislocation, decapitation, thoracotomy or major organ removal will be performed following the primary method  |
| **Other euthanasia method**  |       |       |

**( )** **A physical method of sacrifice will be used without prior anesthesia or sedation** (i.e. cervical dislocation or decapitation). This is considered a conditional method based on preserving experimental data. Please provide scientific justification:

**N. Location of Animals ( ) Not Applicable**

|  |  |
| --- | --- |
| 1. **Are live animals ever used *outside* of the centralized facilities?**

NOTE: Animals cannot be outside of the facilities OVER 12 hours for USDA species or OVER 24 for other species, unless approved as a satellite facility. |  **( )**No **( )**Yes **( )**N/A (Field study) |

|  |  |  |  |
| --- | --- | --- | --- |
| **Name of procedure or**  **indicate if satellite housing**(e.g. name of surgery, sacrifice/ tissue harvest, imaging, monitoring, etc.) | **Building and** **room number** | **Has the room already been approved by the IACUC?** | **Longest period of time animals would be present** |
|       |       |  **( )**No **( )**Yes |       |
|       |       |  **( )**No **( )**Yes |       |
|       |       |  **( )**No **( )**Yes |       |

|  |
| --- |
| **2. Justification for removing animals from central housing facility**  |
|       |

**O. Duplication and Consideration of Alternative Methods ( ) Not Applicable**

The completion of this section is required for a new procedure.

**A. DUPLICATION**

 **( )** These experiments have not been conducted previously.

**( )** Previously performed experiments were inconclusive.

**( )** Although similar experiments have been performed, these studies extend our knowledge *(explain below).*

**( )** None of the above apply. Explain and *provide specific justification here:*

**B. ALTERNATIVE METHODS VERIFICATION FOR USDA CATEGORY D & E PROCEDURES**

Federal regulations mandate that you describe how the lack of alternative methods was verified for each potentially painful/distressing procedure. Cat C procedures do not need an alternative search; **please search only Category D and/or E procedures added in this amendment.**

|  |
| --- |
| **1. GENERAL SEARCH INFORMATION** |
| Describe the painful/distressful procedure(s) added in this amendment |       |
| Date the search was conducted:  |       |
| Name of database(s) searched: |       |
| The years covered by the search: |       |
| **2. DESCRIBE YOUR SEARCH STRATEGY BELOW**Recommended Search Strategy 🡺 “*procedure*” and “*species*” and “*alternative(s)*” = # references The Committee must be able to understand the keywords and search strategy used. The number of references foreach keyword combination must also be provided. *Example:* Use of anesthesia in mice = *[anesthesia + (mouse or mice) + (alternative or alternatives)] = # of references retrieved.* |
| Strategy:       |
| **3. PROVIDE A NARRATIVE FOR EACH SEARCH.** The Committee must be readily able to assess whether the search topics were appropriate and whether the search was sufficiently thorough. |
| Narrative:       |

**P. Principal Investigator Assurance of Compliance and Signature**

I verify that the activities proposed will be conducted in accordance with the approved protocol and amendments.

**( )** I certify that all animal species, numbers, and procedures proposed in this project have been completely described on this application. I, the undersigned, accept responsibility for assuring that all personnel involved in this study have met training requirements, are aware of and will not deviate from approved procedures outlined on this form, and are in accordance with the Animal Welfare Act, the Guide for the Care and Use of Laboratory Animals, and applicable Federal and State Laws and regulations and policies of the University of Massachusetts Lowell with regard to the humane care and use of animals involved in this study.

 ( ) These activities do not unnecessarily duplicate previous experiments.

 ( ) I understand that if I (or my designated representative) cannot respond within 24 hours and animals on this project show evidence of illness or pain, emergency care, including euthanasia, may be administered by the Animal Facility Compliance Manager after consultation and approval from the AV or the IACUC Chair. (Note: indicate here if there are any drugs that should NOT be used because they might interfere with your study data if the AV has to recommend treatment during the study and you are unavailable:( )

( ) I have received and reviewed the UMass Lowell IACUC Policies and Procedures and the Office of Institutional Compliance Facility Policies and Procedures.

( ) I understand that research may not begin until I have received the official notice of approval from the IACUC and that my signature has been received by the IACUC Administrator**.**

|  |
| --- |
| **PI Name Printed:**       |
| **PI Signature** (Electronic signatures are accepted.)**:**( ) By checking this box, you verify that you are submitting this form electronically from your own UMass Lowell email account. This also confirms you understand and agree to adhere to the above Assurance statements and IACUC policies. This is considered legal documentation and confirmation of your agreement to execute all activities as approved.**Date Submitted:**       |
| **Protocol No. and Title:**       |