**IACUC Protocol**

When you have completed the form, please send the signed **Word** version to**iacuc@kaust.edu.sa**

This application should be written in simple and concise terms so that **a non-scientist can understand it.**

|  |
| --- |
| **Contact Information** |

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

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

**Alternate Contact for this project** (name, email address)**:** Click or tap here to enter text.

**Type:** Choose an item

PART I – General Information

|  |
| --- |
| **Section I – Research Description** |

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

**2. Describe the overall goal/aim of your project (similar to an Abstract on a scientific paper).**

* Provide **approximately 300 words** summary of the objectives of this work.
* Use language a **non-scientist can understand.**
* Please eliminate or minimize abbreviations, technical terms, and jargon.

|  |
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| Click or tap here to enter text. |

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| Section II – Research Team |

List **ALL** personnel, including the Principal Investigator, who will work on this proposed research project handling live animals. Staff working with post-mortem tissues only, and ARCL/CMR Staff should not be included.

* All personnel listed below have to complete the **health surveillance program**: <http://researchcompliance.kaust.edu.sa/IACUC/submission.html>
* IACUC oversees **training for individuals working with animals** used for research, teaching or testing at KAUST. For more information on the required training, go to <http://researchcompliance.kaust.edu.sa/IACUC/training.html>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **KAUST ID** | **Role***(PI, Co-PI, Research Team Member)* | **Summary of experience with animal studies***(i.e. 6 years with mouse cancer models)* | **Responsibilities in this project** |
| Click or tap here to enter text. | Click or tap here to enter text. | Choose an item. | Click or tap here to enter text. | Click or tap here to enter text. |
| Click or tap here to enter text. | Click or tap here to enter text. | Choose an item. | Click or tap here to enter text. | Click or tap here to enter text. |

To add more rows click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

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| Section III – Funding Source |

Check **ALL** that apply:

[ ]  Baseline Funding

[ ]  Grant Application to KAUST OSR: Click or tap here to enter text.

[ ]  Grant Application to Funding Agency. Name of Funding Agency: Click or tap here to enter text.

[ ]  Industrial Collaboration. Name of Industrial Collaborator: Click or tap here to enter text.

[ ]  Other, Explain: Click or tap here to enter text.

|  |
| --- |
| **Section IV – Research Use Classification** |

***NOTE: Your response to this section will determine the completion of subsequent sections.***

**1.** In the table below, indicate **Yes** or **No** to describe what is involved in your research.

|  |  |
| --- | --- |
| 1. [**Invertebrate Studies**](#S4a)
 | Choose an item. |
| 1. [**Observational Studies**](#S4b)
 | Choose an item. |
| 1. [**Vertebrates Studies**](#S4c)(Rodent and Aquatic Species)
 | Choose an item. |
| 1. [**Anesthesia and Analgesia use**](#S7a)
 | Choose an item |
| 1. [**Substances Administration**](#S8)(other than analgesics or anesthetics)
 | Choose an item |
| 1. [**Blood/Tissue Collection Methods on live animals**](#S9)
 | Choose an item |
| 1. [**Surgery**](#S10a)
 | Choose an item |
| 1. [**Euthanasia and Disposition of Animals**](#S11a)
 | Choose an item |
| 1. [**Prolonged Restraint**](#S12)(including use of nets or traps)
 | Choose an item |
| 1. [**Food and Water Restrictions**](#S13)
 | Choose an item |
| 1. [**Non-Standard Husbandry**](#S14)
 | Choose an item |
| 1. [**Genetically Modified Animals**](#S15)
 | Choose an item |
| 1. [**Collaboration with other Institution**](#S16)
 | Choose an item |
| 1. [**Research location other than Core Labs**](#S17)
 | Choose an item |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | **Section V a – Invertebrate Experimental Design** |

**List all invertebrates involved in the study:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Species (Common Name)** | **Field Research** | **Housing/Use Location** *(building and Room) if applicable or N/A* | **Approximate Number/ Quantities** | **CITES Species** | **Source** |
| Click or tap here to enter text. | Choose an item. | Click or tap here to enter text. | Click or tap here to enter text. | Choose an item. | Click or tap here to enter text. |
| Click or tap here to enter text. | Choose an item. | Click or tap here to enter text. | Click or tap here to enter text. | Choose an item. | Click or tap here to enter text. |

To add more rows click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section V b – Observational Study Experimental Design |

Please list **Species**, andthe **number** of animals:

* For laboratory studies, enter the species common name (i.e. mouse, clownfish).
* For field studies:
* Species: when the target species is unknown, enter general species descriptors such as “reef fish”.
* Number of animals: estimate the number of animals based on prior studies (include non-target species).

|  |  |
| --- | --- |
| **Species (Common Name)** | **Number of animals (for the 3 years approval)** |
| Click or tap here to enter text. | Click or tap here to enter text. |
| Click or tap here to enter text. | Click or tap here to enter text. |

To add more rows click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

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| --- | --- |
| Not Applicable [ ]  | **Section V c – Vertebrate Experimental Design** |

**1. Total Number of animals**:

* For **laboratory studies**, enter the species common name (i.e. mouse, clownfish).
* For **field studies**:
* Species: when the target species is unknown, enter general species descriptors such as “reef fish”.
* Number of animals: estimate the number of animals based on prior studies (include non-target species).

|  |  |
| --- | --- |
| **Species (Common Name)** | **Total Number of animals (for the 3 years approval)** |
| Click or tap here to enter text. | Click or tap here to enter text. |
| Click or tap here to enter text. | Click or tap here to enter text. |

To add more rows click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

|  |
| --- |
| **For the following questions:*** Create master list of procedures that will be used in this protocol
* For each study justify the number of animals required using study variables
* Provide a chronological summary or flow chart which associates the specific procedures (from the master list and part II – Common Procedures)
 |

**2. Please describe all study-specific procedures (do not include procedure described in part II – Common Procedures)**:

|  |  |
| --- | --- |
| **Procedure title** | **Procedure description** |
| Click or tap here to enter text. | Click or tap here to enter text. |
| Click or tap here to enter text. | Click or tap here to enter text. |

To add more rows click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

**3. Briefly describe your experimental design:**

***NOTE: Repeat this table for each experimental group.***

|  |  |
| --- | --- |
| **Functional Title:** | Click or tap here to enter text. |
| **Summarize the number of animals per experiment:** Examples: A. number of animals per group (n) **x** variable 1 *(e.g. drug dose range)* **x** variable 2 *(max number of time points)* **=** TotalB. number of animals per group (n) *(target + non-target species)* **x** variable 1 *(max number of locations)* **x** variable 2 *(max number of collections per locations)* **=** Total  |
| Click or tap here to enter text. |
| **For each group of animals (n), please provide a justification for the animal group size:** • Justification should be based on **power analysis**, reference to an existing **publication**, the **quantity** of tissue used, or the need for **pilot data**.• Use of pilot project will result in the approval of a small number of animals to obtain pilot data.• For **Field Studies**, justifications may be based on historical or published sample size data. |
| Click or tap here to enter text. |
| **Chronological summary of the procedures an individual animal will undergo during this experiment.** * This could be in the form of a flowchart
* reference the procedure name from question 2 and part II – Common Procedure
* Do not repeat specific information such as dosing, or detailed procedural description in this question
 |
| Click or tap here to enter text. |
| **Describe the Humane endpoints:**(point at which pain or distress in an experimental animal is prevented, terminated or relieved) | Click or tap here to enter text. |
| **Describe the Scientific endpoints:**(point at which the scientific aims and objectives have been reached) | Click or tap here to enter text. |
| **Pain/distress classification** | Choose an item. |
| **When moderate to severe pain/distress cannot be relieved, provide a scientific justification.** (State methods or means used to determine that pain and distress relief would interfere with research results.) | Click or tap here to enter text. |
|  |

To repeat the table click on the little plus sign at the bottom right of the table. You have to click on the table to see the + sign.

|  |
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| Section VI – Harm Benefit Analysis |

|  |  |
| --- | --- |
| **What is the expected benefit of this research for basic and applied research, human or animal health, the advancement of knowledge or the good to the society?** | Click or tap here to enter text. |
| **Will any of the below freedoms will be denied to the animals?** Check ALL that apply: |
| **Freedom from hunger or thirst** | [ ]  Yes[ ]  No, ready access to fresh water and a diet to maintain full health and vigor will be provided. |
| **Freedom from discomfort** | [ ]  Yes[ ]  No, an appropriate environment including shelter and a comfortable resting area will be provided. |
| **Freedom from pain, injury or disease** | [ ]  Yes[ ]  No, prevention or rapid diagnosis and treatment will be provided. |
| **Freedom to express (most) normal behavior** | [ ]  Yes[ ]  No, sufficient space, proper facilities and the company of the animal’s own kind will be provided. |
| **Freedom from fear and distress** | [ ]  Yes[ ]  No, conditions and treatment which prevent mental suffering will be implemented. |
| **If Yes is indicated for any of the above, identify the study** [**(Section V)**](#_Section_V_c) **in which this will occur and describe how the expected benefit outweighs the loss of freedom the animals will experience:** |
| Click or tap here to enter text. |

|  |
| --- |
| Section VII – Implementation of 3R’s |

* **Replacement:** full or partial replacement with in vitro models, simulations or less-sentient species (e.g. use of inanimate systems (as computer programs), test on single cell/tissue type, use of animal lower on phylogenetic scale in part of the project).
* **Refinement**: modifications of husbandry or experimental procedures to enhance animal well-being and minimize pain and distress (e.g. early endpoints (body scoring), pain and management relief methods, telemetry, use of minimally invasive techniques).
* **Reduction**: steps taken to reduce the number of animals (e.g. precise experimental design, use of tier testing (sequential design), serial imaging, refined statistical methods).

|  |  |
| --- | --- |
| **Give examples of Refinement methods which have been implemented in this protocol.\*** | Click or tap here to enter text. |
| **Give examples of Reduction methods which have been implemented in this protocol.\*** | Click or tap here to enter text. |
| **Give examples of Replacement methods which have been implemented in this protocol.\*** | Click or tap here to enter text. |
| **Why are animals necessary for the success of this project?** | Click or tap here to enter text. |
| **Provide scientific justification for why the selected species is the most appropriate model for this research.** | Click or tap here to enter text. |
| **If applicable, please provide a summary of preliminary in vitro data results supporting the need of animals for the research.** | Click or tap here to enter text. |
| **\* If methods cannot be implemented, provide scientific justification** |

PART II – Common Procedures

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section VIII a – Anesthesia and Analgesic use for Rodents |

|  |
| --- |
| **Anesthesia Use** [ ]  Not Applicable |
| **Check ALL that apply** | [ ]  Isoflurane use of vaporizer with scavenger system. Route inhalation with nose cone for surgery or induction chamber for initial anesthesia or short term techniques. (Dose Range - Induction: 3-5%; Maintenance: 1-3%)[ ]  Other: Click or tap here to enter text. |
| **Monitoring of the depth of the anesthesia**Check ALL that apply | [ ]  Toe/Paw Pinch[ ]  Muscle Relaxation[ ]  Respiration Rate[ ]  Corneal Reflex[ ]  Other: Click or tap here to enter text. |
| **Supportive Care** [ ]  Not Applicable |
| **Check ALL that apply** | [ ]  Fluid therapy. Drug Name: Click or tap here to enter text. . Describe drug and dose in [**Section IX**](#_Section_IX_–Substances).[ ]  Lubricant Eye ointment use. Lubricant Name: Click or tap here to enter text.Dose: One drop per eye soon after induction for procedures longer than 5 min and at repeated intervals as often as needed. [ ]  Supplemental heat, describe: Click or tap here to enter text.[ ]  Other: Click or tap here to enter text. |
| **Analgesia Use** [ ]  Not Applicable |
| **Will analgesics be used pre and post-surgery or for other chronic pain producing procedures?** | [ ]  Pre-operatively[ ] Post-operatively[ ]  For other chronic pain producing procedures, describe:Click or tap here to enter text. |
| **Analgesic agent and method of use**Check ALL that apply | [ ]  Carprofen; Dose range: 5-10 mg/kg, Orally or Intramuscularly, Once a day.[ ]  Buprenorphine; Dose range: 0.05 to 0.10 mg/kg, Subcutaneously, Twice or three times a day.[ ]  Meloxicam; Dose range: 2-5 mg/kg, Orally, Twice a day.[ ]  Other: Click or tap here to enter text. |
| **How will the animal's pain/distress be monitored to ensure that the analgesic is effective?**Check ALL that apply | [ ]  Guarding (protecting painful area)[ ]  Licking, biting, scratching or shaking the painful area[ ]  Restlessness[ ]  Failure to groom[ ]  Lack of normal interest in surroundings[ ]  Abnormal Postures[ ]  Lack of mobility[ ]  Other: Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section VIII b – Anesthesia and Analgesic use for Aquatic Species |

|  |
| --- |
| **Anesthesia Use** [ ]  Not Applicable**Note:** for use of **anesthesia in aquatic species** water quality parameters such as dissolved oxygen, ammonia levels, pH, and temperature must be monitored. Interspecies variations occur and could have unforeseen effects on experiments: when no bibliographic data are available or in case of new procedures test the procedure on low numbers of fish first and validate a species specific SOP. |
| **Check ALL that apply** | [ ]  Clove oil (40-100 mg/L) use for immersion on laboratory. Dose: to effect depending on fish species and anesthetic depth.[ ]  Clove oil (40-100 mg/L) use for exposure to the solution in the field. Dose: to effect depending on fish species and anesthetic depth.[ ]  MS 222 (Induction: 20-200 mg/l Maintenance: 50-75 mg/l) use for immersion on laboratory. Dose: to effect depending on fish species and anesthetic depth. MS222 use in freshwater will reduce the pH and needs to be buffered following manufacturer guidelines[ ]  MS 222 (1 g/L if sprayed onto gills) use for exposure to the solution, in the field. [ ]  Other: Click or tap here to enter text. |
| **Monitoring of the depth of the anesthesia**Check ALL that apply | [ ]  Righting reflex[ ]  Response to stimuli (Firmly squeeze at the base of the tail)[ ]  Muscle relaxation[ ]  Respiration[ ]  Other: Click or tap here to enter text. |
| **Supportive Care** [ ]  Not Applicable |
| **Check ALL that apply** | [ ]  Excitement phase control (use of lids, nets, foam pads, manual restraint), describe: Click or tap here to enter text.[ ]  Other: Click or tap here to enter text. |
| **Analgesia Use** [ ]  Not Applicable |
| **Will analgesics be used pre and post-surgery or for other chronic pain producing procedures?** | [ ]  Pre-operatively[ ] Post-operatively[ ]  For other chronic pain producing procedures, describe:Click or tap here to enter text. |
| **Analgesic agent and method of use**Check ALL that apply | [ ]  Carprofen. Dose range: 1-5mg/kg, Intramuscularly.[ ]  Tramadol. Dose range: 10–100 nmol/g or 10 µg/fish, Intramuscularly.[ ]  Butorphanol. Dose range: 0.05-0.5 mg/kg, Intramuscularly.[ ]  Other: Click or tap here to enter text. |
| **How will the animal's pain/distress be monitored to ensure that the analgesic is effective?**Check ALL that apply | [ ]  Body orientation and swimming[ ]  Environmental quality parameters[ ]  Fin clamping[ ]  Opercular/respiratory rate[ ]  Feeding patterns[ ]  Other: Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section IX – Substances Administration |

**1. Please list all substances that will be administered to live animals except Pharma Grade Anesthetics and Analgesics:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Substance type** | **Pharma Grade** | **Substance Name** | **Purpose of use** | **Dose range***(e.g: 5-10 mg/kg)* | **Route***(IV, IP, IM, SC,.)* | **Frequency** | **Maximum Duration** |
| Choose an item. | Choose an item. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Choose an item. | Choose an item. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Definitions:**

* **Pharma Grade**: Use of Non-Pharmaceutical Grade compounds should be justified. Pharmaceutical-grade means a compound has been:
	+ manufactured under Good Manufacturing Practices (GMP) and recognized by the Saudi Food and Drug Authority (SFDA) or international equivalent
	+ chemical purity standard has been written or established by a recognized compendia (e.g., an national Pharmacopeia or National Formulary)
* ***Not Available***: drug is an experimental compound and/or is not available in pharmaceutical grade
* ***Incorrect Formulation***: drug is the incorrect concentrate, contains confounding additives

**2. Provide scientific justification for the use of non-pharmaceutical-grade preparations:**

* Examples of appropriate justifications include:
	+ The pharmaceutical-grade compound is not available in the appropriate concentration or formulation or the appropriate vehicle control is unavailable
	+ The compound is required to generate data that are part of an ongoing project or that are comparable to previous work
* In All cases, the chemical properties of the compound must be appropriate for the project and the route of administration (e.g., the purity, grade, stability in and out of solution, solution vehicle properties, pH, osmolality, and compatibility of the solvent and other components of final preparation)
* The method of preparation, labeling (i.e., preparation and use-by dates), administration and storage of formulations should be appropriately considered with the aim of maintaining their stability and quality (i.e., to prevent inadvertent co-administration of infectious agents or contaminants)

|  |
| --- |
| Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section X – Blood/Tissue Collection Methods on live animals |

**1. Blood collection, please select:** [ ]  **Not Applicable**

Mouse total blood volume = 0.058 ml per g (approx.)

* For in vivo bleeds <10 % of an animal’s total blood volume can be taken in a single collection.
* Up to 15% of an animal’s total blood volume may be collected over a 4 week period.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Blood collection route** | **Anesthesia required** | **Volume range required per draw** | **Maximum # of Collections per 4 weeks** | **Minimum Interval Between Collections** |
| [ ]  Submandibular vein or tail vein  | No | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| [ ]  Retro-orbital | Yes | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| [ ]  Cardiac (terminal procedure) | Yes | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| [ ]  OtherClick or tap here to enter text. | Choose an item. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**2. Tissue or other biological samples (urine, feces…) collection:** [ ]  **Not Applicable**

Please specify collection method and total collection number.

|  |
| --- |
| Click or tap here to enter text.  |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XI a – Surgery for Rodents |

**Please complete the Surgery Description table for each surgery:**

|  |
| --- |
| **Will animals recover from anesthesia following surgery?**[ ]  Yes[ ]  No |
| **Will multiple recovery surgeries be performed as part of separate anesthetic events?**[ ]  Yes[ ]  No**If yes,** list the surgical combination and provide a scientific justification for why this is necessary:Click or tap here to enter text. |
| **Surgery Type** | [ ]  Major (penetrates a body cavity or cause permanent physical impairment)[ ]  Minor (doesn’t penetrate a body’s cavity or doesn’t cause permanent physical impairment) |
| **Procedure Name** | Click or tap here to enter text. |
| **Procedure Description** | Click or tap here to enter text. |
| **Surgical Site Preparation** | [ ]  **Standard:** Hair removal followed by alternate scrubs of iodophor/chlorhexidine and 70% alcohol repeated 3 times[ ]  Other: Click or tap here to enter text. |
| **Surgical Site Closure** | [ ]  **Standard:** Fascia will be closed with absorbable sutures, skin will be closed with staples, sutures or glue[ ]  Other: Click or tap here to enter text. |
| **Post- operative observation** | [ ]  **Standard:** behavior, surgery site/line, weight loss, gait, posture, food Intake.[ ]  Other: Click or tap here to enter text. |
| **How many days after surgery will Suture be removed?** | 14 |
|  |

***NOTE: Repeat this table for each surgery.***

To repeat the table click on the little plus sign at the bottom right of the table. You have to click on the table to see the + sign.

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XI b – Surgery for Aquatic Species |

**Please complete the Surgery Description table for each surgery:**

|  |
| --- |
| **Will animals recover from anesthesia following surgery?**[ ]  Yes[ ]  No |
| **Will multiple recovery surgeries be performed as part of separate anesthetic events?**[ ]  Yes[ ]  No**If yes,** list the surgical combination and provide a scientific justification for why this is necessary:Click or tap here to enter text. |
| **Surgery Type** | [ ]  Major (penetrates a body cavity or cause permanent physical impairment)[ ]  Minor (doesn’t penetrate a body’s cavity or doesn’t cause permanent physical impairment) |
| **Procedure Name** | Click or tap here to enter text. |
| **Procedure Description** | Click or tap here to enter text. |
| **Surgical Site Preparation** | [ ]  **Standard:** Gentle removal of grossly visible dirt and debris with limited removal of mucus and disruption of scales.[ ]  **Standard:** Cotton swab soaked in sterile saline, dilute povidone iodine, use of plastic sterile drape and scales removal.[ ]  Other: Click or tap here to enter text. |
| **Surgical Site Closure** | [ ]  **Standard:** Sutures will follow the longitudinal axis of the fish and avoid the lateral line.[ ]  Other: Click or tap here to enter text. |
| **Post- operative observation** | [ ]  **Standard:** behavior, surgery site/line, weight, osmotic imbalances, food Intake, hormonal imbalance.[ ]  Other: Click or tap here to enter text. |
| **How many days after surgery will Suture be removed?** | 14 |
|  |

***NOTE: Repeat this table for each surgery.***

To repeat the table click on the little plus sign at the bottom right of the table. You have to click on the table to see the + sign.

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XII a – Euthanasia and Disposition of Rodents |

**1. How will the animal be euthanized?** Check ALL that apply

**Note:** Methods must comply with the [AVMA Guidelines for the Euthanasia of Animals.](https://www.avma.org/sites/default/files/2020-01/2020_Euthanasia_Final_1-15-20.pdf)

|  |  |
| --- | --- |
| **Physical methods****(non-reversible)** | [ ]  Decapitation under anesthesia\* [ ]  Decapitation without anesthesia.\* (Recommended for animals younger than 10 days)[ ]  Cervical dislocation under anesthesia[ ]  Cervical dislocation without anesthesia[ ]  Perfusion with fixative under anesthesia |
| **Potentially reversible methods** | [ ]  Carbon Dioxide (compressed gas source) [ ]  Anesthetic Overdose. **Please describe drug name, route, and dose:**Click or tap here to enter text.  |
| **For the use of potentially reversible methods, please list physical methods to ensure animal’s non-recovery:**Click or tap here to enter text. |
| [ ]  Other:  | Click or tap here to enter text. |

\***Note**: Decapitation requires a maintenance log for blade sharpening

**2. Final disposition:**

|  |  |
| --- | --- |
| **Final disposition of the animal** | [ ]  Euthanasia, and disposal accordingly to University biological materials disposal guidelines[ ]  Other: Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XII b – Euthanasia and Disposition of Aquatic Species |

**1. How will the animal be euthanized?**

**Note:** Methods must comply with the [AVMA Guidelines for the Euthanasia of Animals](https://www.avma.org/sites/default/files/2020-01/2020_Euthanasia_Final_1-15-20.pdf) and/or [CCAC guidelines on: the care and use of fish in research, teaching and testing](http://researchcompliance.kaust.edu.sa/iacuc/guidelines/The%20care%20and%20use%20of%20fish%20in%20research%2C%20teaching%20and%20testing.pdf).

|  |  |
| --- | --- |
| **Potentially reversible methods** | [ ]  Use of lethal levels of central nervous system depressants. Please describe drug name, route, and dose: Click or tap here to enter text. [ ]  Use of immersion anesthetic at lethal dose. Please describe drug name and dose: Click or tap here to enter text. |
| **For the use of potentially reversible methods, please list physical methods to ensure animal’s non-recovery:**Click or tap here to enter text. |
| **Physical methods****(non-reversible)** | [ ]  Decapitation\* [ ]  Spearfishing with second non-reversible method[ ]  Cervical transection [ ]  Gill-cut methods[ ]  Exsanguination[ ]  Percussive stunning[ ]  Pithing |
| [ ]  Other:  | Click or tap here to enter text. |

\***Note**: Decapitation requires a maintenance log for blade sharpening

**2. Final disposition:**

|  |  |
| --- | --- |
| **Final disposition of the animal** | [ ]  Release to the wild[ ]  Transfer between facilities[ ]  Euthanasia, and disposal accordingly to University biological materials disposal guidelines[ ]  Other: Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XIII – Prolonged Restraint |

**1. If a single animal will be restrained for more than 5 minutes at a time, please describe in the table below:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Restraint Method** | **Maximum Duration of Restraint\*** | **Maximum # of Restraint(s)** | **Minimum Interval Between Restraints** |
| Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

To add more rows click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

\*If the restraint limits the ability of the animal to access food and water for more than 6 hours, please complete [Section XIV – Food and Water Restriction or Withholding](#_Section_XIV_–)

**2. If a device is used, how the animal will be habituated to the restraint device?**

|  |
| --- |
| Click or tap here to enter text. |

.

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XIV – Food and Water Restriction or Withholding |

|  |  |
| --- | --- |
| **What will be restricted or withheld?** Check all that apply | [ ] Food[ ] Water |
| **Describe restriction or withholding** | Click or tap here to enter text. |
| **Justify the restriction or withholding** | Click or tap here to enter text. |
| **Describe the length of restriction or withholding** | Click or tap here to enter text. |
| **How often will the animals be monitored to ensure that they do not become malnourished or dehydrated?** | Click or tap here to enter text. |

PART III – Specialized Husbandry

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XV – Non-Standard Husbandry  |

|  |
| --- |
| **Describe any non-standard husbandry need** |
| Click or tap here to enter text. |

**Note:** Examples of non-standard husbandry include special diet, alterations to cage/tank size, light cycle, temperature, bedding (for rodents), increase cage changes (for rodents) or alternative breeding scheme.

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XVI – Genetically Modified Animals  |

|  |  |
| --- | --- |
| **Do you plan to use genetically modified animals?** | [ ]  Yes [ ]  No |
| **If you are expecting the animals to experience any adverse effects, distress, or pain related to the phenotype(s), describe below:** |
| **Strains/Stock** | **Clinical signs, supportive care, and criteria for euthanasia** |
| Click or tap here to enter text. | Click or tap here to enter text. |
| Click or tap here to enter text. | Click or tap here to enter text. |

To add more rows click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

***NOTE: Specialized Husbandry requirements must be included in*** [***Section XV***](#_Section_XV_–)***.***

PART IV – Non Centralized Location

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XVII – Collaboration |

***NOTE: a copy of the Collaborator’s IACUC approval must be submitted with this application.***

|  |  |
| --- | --- |
| **Name of Collaborating Institution or International Repository** | Click or tap here to enter text. |
| **Collaborating PI Name** *(N/A for Repositories)* | Click or tap here to enter text. |
|  |

To add a collaborator click on the little plus sign at the bottom right of the table

You have to click on the last line to see the + sign.

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XVIII – Field Research  |

|  |  |
| --- | --- |
| [ ]  | **I affirm that I will obtain the necessary wildlife permits for field research.** |
| [ ]  | **I affirm that my field research plan will mitigate any potential hazards (zoonotic or physical).** |
| **Will the animals be captured?** | [ ]  Yes, list locations[ ]  No |
|  | **Location(s)** | Click or tap here to enter text. |
|  | **Will the animals be released afterwards?**  | [ ]  Yes, explain below[ ]  No |
|  | **Will it be released at the same location they were captured?** | [ ]  Yes[ ]  No, explain below |
|  | **Release Explanation:**  | Click or tap here to enter text. |
| **If live animal will be** **transported to KAUST, please describe the following:*** **Location (Contact Core Labs to arrange housing or complete** [**Section XIX**](#_Section_XIX-_Satellite)**)**
* **Purpose**
* **Transportation**
* **Quarantine/Acclimation**
* **Husbandry requirements**
 |
| Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XIX – Satellite Housing/Holding |

***Note: The location you indicate will be included in the IACUC Inspection Program.***

|  |  |
| --- | --- |
| **Building** | Click or tap here to enter text. |
| **Room** | Click or tap here to enter text. |
| **Purpose of Use** | [ ] Housing greater than 24h (Please fill [**Section XX**](#S19))[ ]  Survival surgery[ ]  Animal manipulation or procedure |
| **Scientific justification for keeping the animals outside central facilities Note:** Convenience alone is not an acceptable justification. | Click or tap here to enter text. |
| **Estimated maximum duration of satellite housing for any one animal** | Click or tap here to enter text. |
| **Will any biohazards or chemical agents be used in the animals while in this area?** | [ ]  Yes [ ]  No |
|  | **Please describe** | Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Not Applicable** [ ]  | Section XX – Housing Greater than 24 Hours  |

***Note: Terrestrial and/or Aquatic Husbandry Log must be maintained.***

|  |  |
| --- | --- |
| **Does the room share HVAC (ventilation) with non-animal areas?** | [ ]  Yes [ ]  No |
| **Describe acclimation and quarantine methods**  | Click or tap here to enter text. |
| **Describe feeding (e.g. frequency and type of food) and watering practices to be used (e.g. water bottle –frequency of filling/cleaning or automatic watering system)** | Click or tap here to enter text. |
| **Describe the cage/tank type** | Click or tap here to enter text. |
| **Describe planned frequency of cage/tank changing or cleaning** | Click or tap here to enter text. |
| **Describe planned room cleaning procedures** | Click or tap here to enter text. |
| **Planned light cycle in the room:** |
|[ ]  **Light Timer; hours on:**  | Click or tap here to enter text. | **hours off:** | Click or tap here to enter text. |
|[ ]  **Natural Light; describe:** | Click or tap here to enter text. |

|  |
| --- |
| **Certifications and Signature** |

**As the Principal Investigator of this research, I certify that the information in this application is accurate and complete. I agree to abide by all guidelines and regulations pertaining on this research. Specifically, I agree to abide by the following requirements:**

1. I certify that I am responsible for and will assure adequate supervision of all research personnel involved in this application and will ensure that all adhere to the animal procedures approved by the IACUC as well as to the IACUC policies.
2. I certify that all individuals working on this application, who have contact with live animals, are enrolled in the KAUST Occupational Animal Exposure Medical Evaluation (Salute).
3. I certify that I have determined that the research proposed herein is not unnecessarily duplicative of previously reported research.
4. I certify that I have reviewed the pertinent scientific literature and have found no valid alternative to any procedures described herein which may cause more than momentary pain or distress, whether it is relieved or not.
5. I confirm that I’ve been consulting with a lab animal veterinarian in preparing sections IV, VI, VII, VIII, X, and XIII and that I’m familiar with the KAUST ARCL/CMR list of procedures.
6. I will obtain approval from the IACUC before initiating any alterations in this application.
7. I will keep copies of all approved applications, revisions, and amendments.
8. I certify that I am responsible for the storage and backup of the data collected, including all procedures (e.g. euthanasia) performed on animals.

 Click or tap here to enter text.  Click or tap to enter a date.

 **Principal Investigator Name Signature Date**