**Research protocol for Preclinical studies**

1. ***General information***
* Protocol title (should be scientifically sound and clear)
* Type of study protocol

|  |
| --- |
| [ ]  M.Sc [ ]  Ph.D. [ ]  Research work [ ]  Grant *\* If grant, please state grant name and ID:* ………………………………….Don’t tick any box if student/s are not known/enrolled yet. |

* Applicant and research team information

|  |  |  |  |
| --- | --- | --- | --- |
| **Serial No.** | **Name** | **Department**  | **Institutional affiliation** |
| fig for ethics | Principle Investigator |  |  |  |
|  | Other researchers |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. ***Project summary***
* Project summary should be one page at most (font size 12, single spacing).
* It should summarize all protocol's elements (experimental design, rationale, objectives, methods, time frame, expected outcomes and needs for carrying out the study in animals)
* Supportive references of literature
1. ***Animal care and use:***

This section should include

* Researcher's qualifications and training to ensure gentle handling of animals
* Required animals

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  **Genus and species** | **Strain/****Breed** | **Weight range and/or Age** | **Sex****(M, F)** | **Total****Number** | **Source** |
|  |  |  |  |  |  |

* Pledge to conduct experiment in accordance with three "R" principle of:

The three Rs (Replacement, Reduction and Refinement) are the cornerstone of ethical animal research, and CU-IACUC requires investigators to implement the 3Rs whenever possible upon preparing to use animals for scientific or teaching purposes.

* **Replacement**

Replacement refers to methods that avoid or replace the use of animals through utilization of *in vitro* models, non-living systems, or computer simulations (if applicable)

* **Reduction**

Reduction refers to methods that minimize the number of animals required to achieve the aims of the work.

Applicants must demonstrate that the minimal number of animals required to attain scientifically meaningful or statistically significant results will be used, careful experimental design, correct choice of model and minimizing loss of animals.

* **Refinement,**

This refers to practices that reduce or eliminate the animals’ pain, stress and discomfort using one of the followings: pilot studies, evaluation of vital signs, gross and histological studies, review of comparable literature and/or consultation with experts

***IV- Protocol that involve surgery***

* Does this protocol involve surgery?

**[ ] Yes [ ]  NO**

**If answer with Yes, complete the following section and if No, proceed to section V.**

* Surgical procedures

|  |
| --- |
| Give details and description of the **surgical procedures Guidelines** and pain management during, and/or after surgical intervention.  |

* Anesthetics, analgesic, antibiotic and other drugs used in pain management

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Agent/Substance** | **Drug** | **Dosage** | **Frequency** | **Route of Administration** |
| **Anesthetic Agent** |  |  |  |  |
| **Post-operative Analgesic** |  |  |  |  |
| **Antibiotic** |  |  |  |  |
| **Others** |  |  |  |  |

* **Important Surgical Consideration.**

|  |
| --- |
| 1. **Location (Room, Building) of surgery:**
2. **Describe any care given to the animals prior to the surgery***: [e.g., fasting, sedation, pre-operative physical exam or blood work, etc.].*
* **Describe how the level of anesthesia is assessed to be adequate to begin the procedure?**
* **Will animals be allowed to recover from anesthesia?**

**[ ] Yes [ ]  NO** * **If the answer with Yes, will more than one major survival surgery be conducted on each animal?**

**[ ] Yes [ ]  NO If the answer with Yes, How many times? (**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**).**1. **Aseptic Techniques**

Preparation of the surgical space: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Preparation of the surgeon: [e.g., surgical scrub of hands, donning surgical attire, sterile gloves, etc.] Preparation of the animal: [e.g., clip fur, clean surgical site with antiseptics, use of sterile drapes, application of eye ointment, etc.]1. **Sterilization of instruments**

 Describe how instruments will be sterilized: [e.g., autoclave, glass bead sterilizer, chemical sterilant, etc.] Will instruments be used in multiple animals? If so, describe how sterility will be maintained. |

***V-Supervision of the veterinarian***

**To be signed by veterinarian**