**ANIMAL RESEARCH ETHICS APPLICATION**

Notes for application:

1. The application should be written in **plain** English, avoiding esoteric jargon and acronyms wherever possible. Explanations should be provided for technical terminology when necessary.
2. Each approved protocol is valid for three years from the approval date.
3. Each approved protocol can be renewed/extended **ONCE**. Request for extension can be made 6 months before the expiry date.
4. The Principal Investigator must have obtained permission from the Municipal Affairs Bureau (IAM) as required by the Animal Protection Law to use animals in scientific applications. For applying the IAM permission, please contact the concerned animal facility.
5. All animals should be kept at animal facilities approved by UM and IAM.
6. An individual application is required for each animal type/xenograft model/disease model.
7. In the case of modifications, please submit the Animal Protocol Amendment Request Form (RSKTO-E-F29-r02) to the Sub-panel on Animal Research Ethics for approval.
8. The Sub-panel on Animal Research Ethics or the management of the concerned animal facility reserves the right to limit the number of animals used in any test at any time. This limitation is due to the limited space and capacity within the concerned animal facility. By signing this application, all investigators acknowledge the aforementioned right of the Sub-panel on Animal Research Ethics and the concerned facility management.
9. Animal research ethics approved by the the sub-panel on Animal Research Ethics are only valid for animal experiments performed within UM animal facilities.
10. For citing the approval of the animal ethics in publications, please cite as “**the Sub-Panel on Animal Research Ethics, Panel on Research Ethics of the University of Macau (ID: UMARE-XXX-XXXX)**”

**A. Applicant details**

|  |  |
| --- | --- |
| Principal Investigator: |  |
| Academic title: |  |
| Faculty/Unit: | FHS [ ]  | ICMS [ ]  | Other unit:  |
| Experience in performing animal experiments:  | No [ ]   | Yes [ ]  (Number of years: ) |
| UM email address: |  |
| Contact No.: | Office: | Mobile: |

|  |
| --- |
| ***FOR ANIMAL RESEARCH ETHICS SUB-PANEL USE ONLY*** |
| ***Protocol ID:***  |  |
| ***Decision:*** |  | ***Approval Date:*** |  |
| ***Valid until:***  |

|  |  |  |  |
| --- | --- | --- | --- |
| ***Co-Chair of sub-panel or delegate:*** |  | ***Co-Chair of sub-panel or delegate:*** |  |
| ***Signature:*** |  | ***Signature:*** |  |

**B. Protocol details**

|  |  |
| --- | --- |
| Protocol name: |  |
| Is this protocol for: | [ ]  Research | [ ]  Teaching | [ ]  Others (please specify):  |

|  |  |  |
| --- | --- | --- |
| Is the proposed work currently funded? | [ ]  Yes | [ ]  No |
| Funding source(s) | [ ]  MYRG [ ]  FDCT [ ]  SRG [ ]  Other external fund |

|  |  |
| --- | --- |
| Reference number of research projects to be covered by this protocol: |  |

**C. Animal request summary** *(One animal type per application)*

|  |  |
| --- | --- |
| Animal type | [ ]  Mice (M) [ ]  Rats (R) [ ]  Zebrafish (Z)[ ]  Other: Click here to enter text. |
| Species /strain |  | Total number  |  |
| Age |  | Gender | [ ]  Male  | [ ]  Female  |
| *Justification for using specific gender (please provide references):* |
| Number of animals from each source  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | University breeding |  |  | Commercial supplier |
|  | Captured |  |  | Other: Click here to enter text.  |

 |
| Grade of lab animals |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Conventional |  |  | Clean |
|  | Specific pathogen free |  |  | Germ free |

 |

**D. Authorized personnel**

1. **All individuals authorized to conduct procedures under this application**

*(All personnel listed should have been trained.) (Rows can be added if needed)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Full name of personnel** | **Staff / Student no.** | **UM email address** | **Institution that provided the training for animal handling**  | **Training date for animal handling***(dd/mm/yyyy)* |
| Chan Tai Man | XXXX-X | xxxx@um.edu.mo | University of Macau  | 21/09/2020 |
|  |  |  |  |  |
|  |  |  |  |  |
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|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Routine care of animals and emergency contact when PI is not available\***

*(Rows can be added if needed)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Full name** | **Staff / Student no.** | **Responsibility** | **UM email** | **WeChat** **ID** | **Contact number** |
|  |  | Routine care & Health surveillance |  |  |  |
|  |  | Emergency contact |  |  |  |

\*Emergency contact should be the authorized personnel listed in D1

**E. Justifications**

|  |
| --- |
| 1. **What are the expected benefits/ contribution of the proposed work?**

(*Benefits may include improved basic knowledge, improved animal health, teaching, advancements in medical treatments, etc.)*  |
|  |
| 1. **Why is it necessary to use animals for this study?**
 |
| *References (if any):* |
| 1. **Reason for choosing the specific species of animal.**
 |
| *References (if any):* |

**F. Animal use description**

|  |
| --- |
| 1. **Describe the trial design/ teaching demonstration.**
 |

|  |
| --- |
| 1. **Types and number of animals needed** *(Rows can be added if needed)*
 |
| No. | Name of group | No. of animals/group | No. of repetition | Total no. of animals for each group | Animal type(specify species, gender & age) |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 9 |  |  |  |  |  |
| 10 |  |  |  |  |  |
|  |  |  |  |  |  |
| **Grand total** |  |  |

**G. General animal care and husbandry *(Required)***

1. **Holding place of the animals**

|  |  |  |  |
| --- | --- | --- | --- |
| **FHS AF:** | [ ]  E12-2082  | [ ]  N22-3F annex | [ ]  N22-4029 |
| **ICMS AF:** | [ ]  N22-1F annex  | [ ]  N22-7016ab (rat) | [ ]  N22-7016ac (mice) |
| [ ]  Other: |

1. **Observation period before study**:

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  days |

1. **Feed** *(copy and paste* ***a-d*** *if different feeding regiments are applied.)*

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| 1. **Group of animals:** [ ]  All [ ]  Control group  [ ]  Experimental group: Click here to enter text.
2. **Access to food:** [ ]  Ad libitum [ ]  Restricted: Click here to enter text.
3. **Type of feed:** [ ]  Normal feed [ ]  Special feed: Click here to enter text.
4. **Time period:** [ ]  Observation period [ ]  General period [ ]  Experimental period: Click here to enter text.
 |

1. **Water** *(copy and paste* ***a-d*** *if different water access are provided.)*

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| 1. **Group of animals:** [ ]  All [ ]  Control group  [ ]  Experimental group: Click here to enter text.
2. **Access to water:** [ ]  Ad libitum [ ]  Restricted: Click here to enter text.
3. **Type of water:** [ ] Clean drinking water [ ]  Milli-Q water [ ]  Other: Click here to enter text.
4. **Time period:** [ ]  Observation period [ ]  General period [ ]  Experimental period: Click here to enter text.
 |

**H. Animal manipulation**

* *In general, each disease model requiring a different physical manipulation should be in a separate animal ethics application.*
* *Any other supplementary information and manipulations not covered by this survey, please explain in* ***(12)****.*
1. **Monitoring**

*(Copy & paste* ***a-c*** *if different monitoring methods are intended to be employed)*

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| 1. **Time point**[ ]  Routine [ ]  Model building [ ] During experiment [ ]  After experiment
2. **Frequency**[ ] Every       hour(s) [ ]        time(s)/day [ ]        time(s)/week[ ]  Other: Click here to enter text.
3. **Physical aspects**

[ ] Weight [ ] Mobility [ ] Appetite [ ] Hair coat/ Fur [ ] Activity [ ] Other:       |

1. **Animal model**

|  |
| --- |
| [ ]  No disease/xenograft models involved [ ]  Disease model involved (disease name): Click here to enter text.[ ]  Xenograft model involved (xenograft name): Click here to enter text. |
| *Please provide protocol for model building (either references and/or approved UMARE no.)* |
|  |

1. **Use of anaesthetics**

*(Including anaesthesia, analgesia, sedative, tranquilliser or other pharmacological agent to reduce impact of manipulations)*

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| **Name of group**  | **Drug name** | **Dosage** | **Method** | **Time point** | **Total dose**  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **References or SOPs (if any)** |
|  |

1. **Drug administration**

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| **Group of animals:** [ ]  All [ ]  Control group  [ ]  Experimental group: Click here to enter text. |
| **Drug name** | **Dosage** | **Frequency/ Time period** |
|  |  |  |
|  |  |  |
| **Administration method** |
| [ ]  Oral gavage [ ]  Subcutaneous injection  | [ ]  Intravenous injection[ ]  Intraperitoneal injection | [ ]  Intramuscular injection |
| [ ]  Other *(Please specify):* |

1. **Blood sampling** *(rows can be added if needed)*

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| 1. **Group of animals:**
 | [ ]  All [ ]  Control group [ ]  Experimental group: Click here to enter text. |
| 1. **Sample specifics**

[ ]  Blood platelets [ ]  Plasma [ ]  Other - Please specify: |
| Volume | Time point/ Frequency | Other specificities, if any |
|  |  |  |
|  |  |  |
|  |  |  |
|  |
| 1. **Sampling method/ location**
 |
| [ ]  Cardiac puncture [ ]  Orbital venous plexus [ ]  Umbilical cord[ ]  Caudal vein [ ]  Other *(Please specify):* |
| *References or SOPs (if any)* |

1. **Tissue and other biological matter sampling** *(rows can be added if needed)*

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| 1. **Group of animals:**
 | [ ]  All [ ]  Control group [ ]  Experimental group: Click here to enter text. |
| 1. **Sampling specifics**
 |
| [ ]  Live tissue sampling  |  [ ]  Per mortem sampling  | [ ]  Post-mortem sampling |
| 1. **Tissue to be sampled**
 |
| [ ]  Bile[ ]  Bone marrow[ ]  Brain | [ ]  Breast milk[ ]  Faecal matter[ ]  Heart | [ ]  Kidney [ ]  Liver[ ]  Lung | [ ]  Muscle[ ]  Ovary[ ]  Spleen | [ ]  Tumour[ ]  Urine |
| [ ]  Other *(Please specify)*:  |
| 1. **Sample size and frequency**
 |
| Volume/ size | Time point/ frequency | Other specificities, if any |
|  |  |  |

1. **Physical restraint**

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| 1. **Time point**

[ ]  During injection [ ]  During operation [ ]  During anaesthesia[ ]  Other time point (Please specify):  |
| 1. **Method:**
 |
| 1. **Means to minimize discomfort:**
 |

1. **Operation**

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| [ ]  Caesarean section[ ]  Indwelling catheterisation (carotid) [ ]  Indwelling catheterisation (jugular) | [ ]  Laporotomy[ ]  Skin Grafting[ ]  Other (Please specify): |
| *Please provide references and/or approved UMARE protocol number for the abovementioned operation procedure:* |
|  |

1. **Psychological and behavioural manipulations**

*(Please also describe in detail in space provided if the checked item does not fully describe the manipulation)*

|  |  |
| --- | --- |
| [ ]  **Not applicable** | [ ]  **Yes (please complete the table below)** |
| [ ]  Cold stimulation [ ]  Diurnal change[ ]  Electrocution | [ ]  Heat stimulation[ ]  Light stimulation [ ]  Social restriction | [ ]  Sound stimulation[ ]  Other *(Specify below)* |
| Description:  |

1. **Possible adverse effects/ sufferings on animals**

|  |
| --- |
| 1. **Pain/ irritation:**
 |
| [ ]  No pain / irritation [ ]  Temporary/ minor[ ]  Can be relieved | [ ]  Continual and cannot be relieved[ ]  Severe |
| 1. **Loss of limb/ functionality:**
 |
| 1. **Disease/ symptoms:**
 |
| 1. **Other:**
 |
| 1. **Methods to minimize impact/ adverse effects/ sufferings:**
 |
| 1. **Signs of possible severe adverse effects or emergency situation resulting from the manipulation**

[ ]  No severe adverse effect [ ]  Yes (Please specify):  |
| 1. **In case of emergency during experiment or model building, will there be the option of emergency euthanasia?**

[ ]  No [ ]  Yes (Please specify):  |

1. **Termination of study and fate of animals**

|  |
| --- |
| 1. **Experiment end point and location**
 |
|  |
| 1. **Please check the box(es) of condition(s) when euthanasia would be performed**
 |
| [ ]  Body weight loss >       % [ ]  Complete loss of mobility [ ]  Tumour size >       [ ]  Morbidity score\* >      [ ]  Other *(Please specify):* |
| *\*Morbidity score:* ***0*** *for no evidence of discomfort, bright eyes, active and moves quickly.****1*** *for mild, i.e., slight decrease in activity and less interactive****2*** *for intermediate, i.e., dull fur, decrease in activity and moves after a period of time.****3*** *for severe evidence of immobility, hunching and emaciated.* |
| 1. **Fate of animals upon experiment completion**

[ ]  Euthanized [ ]  (Extra unused animals) returned to Animal Facility[ ]  Other *(Please specify)*: |
| 1. **Euthanasia method**

[ ]  CO2 asphyxiation (Mice/Rats) [ ]  Overdose of tricaine methane sulfonate (Zebrafish)[ ]  Other *(Specify and provide references below):* |
| *References or SOPs (if any)* |

1. **Other Supplementary information**

|  |
| --- |
|  |

1. **Principal Investigator Certifications**

DECLARATION:

1. I certify that all information provided is true, and the aforementioned activity will be carried out in compliance with the related legal clauses stipulated in the Animal Protection Law of Macau.
2. I certify that all authorized personnel listed will receive sufficient training to handle and take care of these animal species, and are authorized to perform procedures using these species for aseptic surgeries including the proper use of anaesthetics, analgesics, and any other drugs when necessary under this proposal. The listed authorized individuals also comprehend the concept, availability, and use of research methods that are meant to minimize the use and/or distress of animals, and the procedures for reporting animal welfare concerns.
3. I assume responsibility for providing each member of the laboratory who will perform procedures under this protocol with a copy of the final version of the approved protocol, and require that they follow the procedures described.
4. I certify that I am responsible for the professional conduct of all personnel under this protocol.

|  |  |
| --- | --- |
| **Principal Investigator:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Signature:** |  | **Date:** |  |