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| **INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC)**  **Workshop/Training Application Form** | | | |
| **IACUC Ref No.:** | FOR OFFICIAL USE | **Amendment Request Date:** | FOR OFFICIAL USE |
| **Application Date:** | FOR OFFICIAL USE | **Amendment Approved Date:** | FOR OFFICIAL USE |
| **Approval Date:** | FOR OFFICIAL USE | **Amendment Version No.** | FOR OFFICIAL USE |
| **Expiry Date:** | FOR OFFICIAL USE |  |  |
| **Protocol Title** | | | |
| <Please Specify> | | | |
| **Instructions for IACUC Application** | | | |
| Instructions / Notes for Principal Investigator (PI)   * To reduce potential delay in your application, it is advised that the completed application be submitted for a Vet Checklist by the 1st day of the month. The final submission via your official corporate email to IACUC Secretariat (including Vet's Checklist) must be submitted by the 7th day of the month (except December), otherwise it will be reviewed in the next cycle of review. * Consult SEMC vets before submission for IACUC review, to ensure that the protocol is complete and accurate, thus reducing delay in the IACUC approval process. * Please note that Section Q is the last Section for this application form. * PI must reply to the reviewers’ comments/queries/recommendations fully with high degree of clarity as possible, after they have been sent to PI. If PI’s reply is still unsatisfactory after PI’s 3rd attempt, IACUC may request PI to re-submit the application, which will be treated as a new application. * NACLAR Guidelines (Second Edition) stated that “Investigators must inform the IACUC in writing when each project is completed or discontinued; and the outcome of each project.” It is the Principal Investigator's responsibility to submit the Annual Project Update report one year from the IACUC approval date and yearly thereafter if the project duration exceeds one year and to request for project extension when necessary. Failure to do so may result in suspension of study till the Annual project report is submitted to the IACUC Secretariat. * Please note that all IACUC protocols' extension is to be made **at least 4 weeks** prior to protocol expiry date. The Extension Approval is given on a case-by-case basis. No further extension request will be granted for projects that are in the fifth year of the study, or projects that had already been given two extensions. * Applicant and the project team's RCULA certificates must be attached with the application. * CIRB's and/or IBC's and/or HBRA approvals (if applicable).   **For further enquiries, please contact the** SingHealth IACUC Secretariat @ SingHealth Office of  Research at:  20 College Road, The Academia Discovery Tower Level 7  Singapore 169856  Email: iacuc@singhealth.com.sg | | | |
| Responsible Conduct of Research  **SingHealth Institutional Animal Care and Use Committee (IACUC)** oversees activities involving any live, vertebrate animal used or intended for use in research, research training, teaching, experimentation, or biological testing or for related purposes. All animal research projects conducted in any of the SingHealth managed facilities shall obtain the consent of the SingHealth IACUC before commencement of the projects.  SingHealth Member Institutions that handle biological agents and toxins covered by the Biological Agents and Toxins Act 2005 (BATA) would form its own BATA Sixth Schedule Biosafety Committee to meet the statutory requirements and the Singapore Biosafety Guidelines for Research on Genetically Modified Organisms. | | | |
| **Declaration of Ethics/Biosafety Considerations**  Please note that approval of this IACUC application is subject to prior approval by the Institutional Review Board (IRB) and/or Institutional Biosafety Committee (IBC) if your project involves human tissues and/or using materials requiring biosafety approval. It is the Principal Investigator's responsibility to ensure that the IRB and/or IBC’s approvals are in place. | | | |
| i. Please state if your study involves the following: | | | |
| Use of Human Tissues or Cells  Use of Human Tissues or Cells for Xenotransplantation Purposes  Requirement for Containment Class 2 and Above  Use of Material Requiring Biosafety Approval  List of Biological Agents & Toxins  *(See LIST OF BIOLOGICAL AGENTS AND TOXINS in IACUC Website)*  First Schedule  Second Schedule  Third Schedule  Fourth Schedule  Fifth Schedule  Genetically Modified Organism  Nanoparticles  Xenotransplantation | | | |
| ii. Do you have an approved IRB Protocol?  Please note that you can apply for IRB approval concurrently to IACUC application, if applicable. For IRB matters, please contact [irb@singhealth.com.sg](mailto:irb@singhealth.com.sg) | | | |
| Yes  No  Pending  NA. | | | |
| |  |  |  | | --- | --- | --- | | IRB Ref. No. | Date of Approval | Approval Letter | |  | DDDMMMYYYY |  | | | | |
| iii. Do you have an approved IBC Protocol?  Please note that you can apply for IBC's approval concurrently to IACUC application, if applicable. | | | |
| Yes  No  Pending  NA. | | | |
| |  |  |  |  | | --- | --- | --- | --- | | IBC Ref. No. | Name of PI | Date of Approval | Approval Letter | |  | <Please Specify> | DDMMMYYYY |  | | | | |
| iv. Do you have a HBRA Approval?  Please note that you can apply for HBRA approval concurrently to IACUC application, if applicable. | | | |
| Yes  No  Pending  NA. | | | |
| |  |  |  | | --- | --- | --- | | HBRA Ref. No. | Date of Approval | Approval Letter | |  | DDDMMMYYYY |  | | | | |

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| **Study Funding Information** |
| **1. Please provide information on Funding Source or Sponsor information.** |
| Department/Institutional Fund  Pharmaceutical/Industry Sponsored   |  | | --- | | **i. Name of Pharmaceutical/Sponsor Company** | | <Please Specify> | | **ii. Sponsor Company's Contact Person** | | |  |  | | --- | --- | | Name | <Please Specify> | | Contact No. | <Please Specify> | | Email Address | <Please Specify> | | Address | <Please Specify> | |   Grant   |  |  | | --- | --- | | Grant Agency | <Please Specify> | | Grant Name | <Please Specify> | | Approval Status | <Please Specify> | | Grant Ref. No. | <Please Specify> | | Grant Approval Date | DDMMMYYYY | | Grant Expiry Date | DDMMMYYYY | | Grant Amount Approved | <Please Specify> | |

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| **Section A: Administrative Data** | | | |
| **A1. Project Title** | | | |
| <Please Specify> | | | |
| **i. Proposed Project Commencement Date:** | | | |
| DDMMMYYYY | | | |
| **ii. Expected Duration of the Project:** | | | |
| DDMMMYYYY | | | |
| **iii. Will you be collecting photo and/or video images of animals and/or, facilities?** See SEMC Video Recording and Photo Taking Policy.  Where will the images be published and elaborate on the purpose and how the images will be captured and used?  For more info about availability of histology consulting and services, please contact [shs.semc@singhealth.com.sg](mailto:shs.semc@singhealth.com.sg). | | | |
| <Please Specify> | | | |
| **iv. What is the expected number of participants?** | | | |
| <Please Specify> | | | |
| **v. Please indicate the Animal Facility Administrator (AFA) who gave clearance on the Workshop date, and the date when you have consulted him/her:** | | | |
| **AFA Name:** | <Please Specify> | **Date of clearance:** | DDMMMYYYY |

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| **A2. Principal Investigator** |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Name** | **Designation** | **Institution/ Organization** | **Department** | **Contact**  **Number** | **Highest**  **Qualification** | **RCULA Cert**  **No./ Date** | |  |  |  |  |  |  |  | |

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| **A3. Delegate/Team Collaborators** |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Name** | **Designation** | **Institution/**  **Organization** | **Department** | **Contact**  **Number** | **Highest**  **Qualification** | **Handling**  **Animals** | **RCULA Cert**  **No./Date** | **Delegate** | |  |  |  |  |  |  |  |  |  |   *\*Add more rows if required.* |

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| **Section B: Objectives of Workshop** | | |
| **B1. Objectives of Workshop** | | |
| The information in this section must be self-contained so that it can serve as a succinct and accurate description of the study when it is read by itself. As far as possible, the technical and medical terms should be explained in simple layman language.  ***IMPORTANT NOTE:*** Do not use terms such as "Refer to attached document" or similar. | | |
| <Please Specify> | | |
| **Section C: Details of Workshop/Training Course** | | |
| **C1. Details of Training Course/Workshop (Up to 400 words).**  Please attach Training Schedule/ Brochures, or any other relevant documents. | | |
| <Please Specify> | | |
| **Please indicate the date(s) of the workshop.** | | |
| **S/N** | **Workshop Session Title** | **Date** |
|  | <Please Specify> | DDMMMYYYY |

*\*Add more rows if required.*

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| **Section D: Animal Requirements** |
| **D1. Animal Requirements** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Species (Scientific Name)** | | | | | | **Proposed Number of Animals Used** | | | | | **Year 1** | **Year 2** | **Year 3** | **Total** | | <Please Specify> | | | | | |  |  |  |  | | **Strains/**  **Stocks** | **Age or**  **Weight/**  **Size** | **Sex** | **Source** | **Holding**  **Location** | **Animal**  **Procedure**  **Location** | **Year 1** | **Year 2** | **Year 3** | **Sub Total** | |  |  |  |  |  |  |  |  |  |  |   *\*Add more rows if required.* |

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| **D2. Social Housing of Animal** |
| **Do you require the animal to be individually housed?**  If yes, please provide justification on why the animal require individual housing and include information on the extra environmental enrichment that the animal will receive. |
| Yes  No |
| <Please Specify> |

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| **D3. Proposed Number of Animals Used for the Workshop** |
| <Please Specify> |
| **Section E: Rationale for Animal Use** |
| **E1. Explain the rationale and basis for choosing the number of animals to be used.** |
| <Please Specify> |
| **Please conduct a literature search to determine whether there are alternative non-animal models available for use in this training.** |
| |  |  | | --- | --- | | **Date of Search:** | DDMMMYYYY | | **Database Name:** | <Please Specify> | | **Years Covered in Search:** | <Please Specify> | | **Keywords:** | <Please Specify> | |
| **Did the literature search reveal alternative non-animal models for use in this training?** |
| Yes  No |
| **In lieu of a literature search, please describe what other sources were consulted to confirm that there are no suitable non-animal models for this training (e.g., consultation with experts in the field or recent attendance at seminars discussing this training). What has been done to verify that there are no non-animal models available to accomplish this training?** |
| <Please Specify> |

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| **E2. Justify the appropriateness of the species selected as the animal model.** |
| <Please Specify> |
| **E3. Justify the number of animals to be used.** |
| <Please Specify> |

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| **E4. Will you be using pregnant animals?** |
| Yes  No |
| **Please discuss how you will take care of the offspring. (Up to 300 words).** |
| <Please Specify> |

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| **Section F: Transport of Animals** |
| **F1. Briefly discuss transport of animals in between facilities in Singapore and the method of containment to be utilised.**  *(This section refers to transport of animals from a location facility to the next. It does not refer to the transportation of animals by the supplier to the facility.)* |
| |  |  |  |  | | --- | --- | --- | --- | | **Species** | **From** | **To** | **Describe the method of containment to be utilized**  *(See ANIMAL TRANSPORT GUIDE in the IACUC Website)* | |  |  |  |  |   *\*Add more rows if required.* |

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| **Section G: Description of Experimental Design & Animal Procedures** |
| **G1. Explain the experimental design and specify all animal procedures. Your description should allow the IACUC to understand the experimental course of an animal from its entry into the experiment to the endpoint of the study. *A complete copy of the research protocol is required, and a study flowchart must be included for clarity and to facilitate IACUC evaluation. (Provide separate attachment if necessary.)***  **Attach Study Flowchart.** |
| <Please Specify> |

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| **Section I: Pre-Medication, Anaesthesia, Analgesia, Sedation and Antibiotics** |
| **I1. Specify the pre-medications, anaesthetics, analgesics, sedatives and antibiotics that are to be used. Include the drug name, dosage, route and frequency/duration.** |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Species** | **Type** | **Drug Name**  *(See DRUGS FORMULARY TABLE in the IACUC Website)* | **Dosage** | **Route** | **Frequency/ Duration** | **Notes** | |  |  |  |  |  |  |  |   *\*Add more rows if required.* |

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| **Section K: Pain & Distress Category** | |
| The proper use of animals is imperative. This includes avoidance or minimisation of discomfort, distress, and pain consistent with sound scientific practice. Unless evidence to the contrary is established, investigators should consider procedures causing pain and/or distress to human beings will also cause pain and/or distress to animals. | |
| **K1. Number of NEW animals used per year.**  *Please make sure that the annual number of animals shown in this table match with the annual number of animals shown under Section D.*  If PI plans to use more than 1 species, please copy format of this whole section, paste below Section K1, and fill in the blanks for each species used. | |
| **Species:** | <Please Specify> |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Index of Severity** | **Year 1** | **Year 2** | **Year 3** | **Total** | | Minimal, Transient, or No Pain or Distress |  |  |  |  | | Pain or Distress Relieved by Appropriate Measures |  |  |  |  | | Unrelieved Pain\* |  |  |  |  | | **TOTAL** |  |  |  |  | | |
| *\* For this category, scientific justification is required to explain why the use of anaesthetics, analgesics, sedatives, or tranquillisers during and/or following painful or distressful procedure is contraindicated.*  Please justify unrelieved pain: | |
| <Please Specify> | |

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| **Section L: Method of Euthanasia/Animal Disposal at the End of the Study** |
| **L1. Indicate the proposed method, and if chemical agent is used, specify the dosage and route of administration. If the method(s) of euthanasia include those not recommended by the Animal and Veterinary Service (AVS) like decapitation or cervical dislocation without anaesthesia, provide scientific justification why such methods be used. Indicate the method of carcass disposal.** |
| |  |  |  |  | | --- | --- | --- | --- | | **Animal Species** | **Method**  For small animals: CO2 Inhalation followed by physical method. For large animals: Injectable agents following sedation. | **Description**  For small animals: the flow of CO2 into the euthanasia chamber should be at a rate to displace 30 to 70% of the chamber volume per minute over at least 5 minutes, followed by cervical dislocation or decapitation.  For large animals: Intracardiac overdose of saturated Sodium Pentobarbital. | **Carcass Disposal**  **Method**  The carcass is placed in double biohazard bag and stored in minus 20°C freezer (if required) for eventual collection by SembCorp for incineration. | | <Please Specify> |  |  |  | |
| **L2. How will death be verified or assured?** |
| <Please Specify> |

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| **Section O: Special Concerns or Requirements of Study** |
| **O1. Special Concerns or Requirements of Study:** |
| Not Applicable  If Not Applicable, skip this Section. |
| List any special housing, equipment, animal care (i.e. special caging, water, feed, or waste disposal, etc.). If applicable, list the staff (research or animal holding) involved in ensuring the special needs are met. |
| <Please Specify> |
| **O2. Will food or fluid be regulated or restricted?**  **[Note: Written record must be maintained for each individual animal on bodyweight, food or fluid restriction to document (daily/periodically) food and fluid consumption, hydration status and any behavioural and clinical changes used as criteria for temporary or permanent removal of animal from protocol.]** |
| Yes  No |
| If yes, please provide justification and method for assessing the health and well-being of the animals. |
| <Please Specify> |

Please submit application to an appropriate vet below for completion of Vet Checklist before submission to IACUC Secretariat.

|  |  |  |
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| **Name** | **Profile** | **Email** |
| Dr Edgar Pena Macabe | Big Animals (Academia/NLARF) | edgar.macabe.pena@singhealth.com.sg |
| Dr Bryan Ogden | Big and Small Animals (Academia/NLARF) | bryan.ogden@singhealth.com.sg |
| Dr Sebastian Jose David | Big and Small Animals (Academia/Duke-NUS) | sebastian.jose.david@singhealth.com.sg |
| Dr Mynn Michele Dy Varela | Big and Small Animals (Duke-NUS) | mynn.michele.dy.varela@singhealth.com.sg |

*Note: For veterinary matters, contact:*

*SingHealth Experimental Medicine Centre*

*20 College Road, The Academia, Discovery Tower, Level 6, Singapore 169856*

*Email:*[*bryan.ogden@singhealth.com.sg*](mailto:bryan.ogden@singhealth.com.sg)

*Contact Tel: 6576 7040*

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| **Section Q: Declaration by Principal Investigator** | | |
| I accept full responsibility for assuring that the workshop/training course will be conducted in accordance with the code of practice for the care and use of laboratory animals, and the procedures described in the approved protocol.  I assure that all personnel who will use this protocol and work with animals will have received appropriate training/instructions in procedural and handling techniques, and/or animal welfare considerations.  I confirm that this protocol is strictly for training. As such, it is necessary to duplicate procedures done here and elsewhere.  I confirm that any photo taking, and video recording of the animal facility will be subject to review and approval by the Animal Research Facility.  I assure that I will not initiate any change in the protocol without prior written approval from IACUC.  I understand that failure to comply with all applicable regulations, institutional and IACUC policies and requirements may result in the suspension or termination of this study.  I certify that if I am using genetically engineered (GE) animal(s) [i.e., animal(s) that contains additional or altered genetic material using tools intended to give the animal a new trait or characteristic] or human stem cells implanted in animals in this IACUC protocol, I must clearly state this fact in section C and G of this application. | | |
| PI Signature: | PI Name: | <Please Specify> |
| Department: | <Please Specify> |
| Institution: | <Please Specify> |
| Date: | DDMMMYYYY |

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