|  |  |
| --- | --- |
| mac black | ANIMAL UtilizationProtocol (Teaching) |
| AREB Office Use Only |
|  | Approval Date |  | - |  | - |  |  | **AUP #** |  | - |  | - |  |  |
|  |  | *Day* |  | *Month* |  | *Year* |  |  |  |  |
|  | Expiry Date |  | - |  | - |  |  | *Replaces AUP #* |  | - |  | - |  |  |
|  |  | *Day* |  | *Month* |  | *Year* |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  | *University Veterinarian’s Signature* |  | *Date* |  | *AREB Chair’s Signature* |  | *Date* |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  | **Prepared By:** |
| *Name* |  |
| *Email Address* |  |
|  | *Principal Investigator’s Signature* | *Date* |  |  |  |  |

**Refer to the Guide for Preparation of AUPs for assistance with completing this form**

**(available at** [**http://www.fhs.mcmaster.ca/healthresearch/areb\_forms.html**](http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html)**)**

|  |
| --- |
| Section 1 ***Title*** |
|  |
|  |
| Title |  |
|  |
|  | [ ]  New Protocol | [ ]  Ongoing Protocol |
| Section 2 ***Principal Instructor*** |
|  |
| Last Name |  | First Name |  |
|  |
| Title |  | Department |  |
|  |
| Business Phone |  | Home Phone |  |
|  |
| Emergency Phone |  | Cell/Pager # |  |
|  |
| Laboratory Room # |  | Laboratory Phone |  |
|  |
| Institutional Email |  |
|  |
| Mailing Address |  |

|  |
| --- |
| Section 3 ***Personnel and Training*** |
|  |
| **List all academic staff personnel working under this AUP. Provide at least one person’s after hours emergency contact number.** |
| Name | Department | Title*Co-Instructor, Tech,**Teaching Assistant* | Extension | After Hours EmergencyContact Number |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |
|  **CCAC Guidelines require that all individuals listed on the AUP take Orientation training.** **A print-out verifying the training must be attached to this document (contact the Training & Regulatory Coordinator, ext 22768).**

|  |
| --- |
| **List staff, including the Principal Investigator, working under the AUP and list all species they will be working with, and all procedures** **they will be performing under the AUP:** |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Staff Name | Species | GA | Inj.An | S.S. | IV T inj | Gav. | Perf. | Breed | Saph | Facial | Ret-Orb | Cardiac | Bleed | Other(s) |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |
|       |       | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  | **[ ]**  |       |

Legend: GA=Gas Anesthesia; Inj An= Injectable Anesthesia; S.S.= Survival Surgery; IV T inj= Intravenous (tail) injection; Gav.= Gavage; Perf.= Perfusions; Breed.= Breeding; Saph.= Saphenous bleeds; Facial= Facial bleeds; Ret-orb.= Retro-orbital bleeds; Cardiac= Cardiac bleeds; Bleed= Bleeding  |

 |
| **Orientation, Animal Handling (species specific), Euthanasia and Endpoints training are required, at the minimum, in order to work with animals. Training is available for many techniques. Please contact the Training & Regulatory Coordinator for more information (ext 22768)** |
|  |

Ethics Talk Provided for the students in the course (REQUIRED) **[ ]  Yes [ ]  No Date of talk:**

|  |
| --- |
| Section 4 ***Lay Description*** |
|  |
| **This Abstract may be released to the Public Relations Officer and the Media.**Provide a typed abstract of **250 words or less** in simple language **(grade 12 reading level)**. Provide a general overview of the procedures for animal use, the expected learning outcomes, the rationale for using animals to reach these learning outcomes, and how these learning outcomes will be evaluated. Examples are provided in the Guide for Preparation of AUPs. |
|  |
|  |
| Section 5 ***Justification of Animal Use*** |
|  |
| The CCAC requires “that animals should be used only if the best efforts to find an alternative have failed. A continuing sharing of knowledge, review of the literature and adherence to the Russell & Burch ***Three R’s Tenet of Replacement, Reduction and Refinement*** are also requisites” ([3rs.ccac.ca/](file:///C%3A%5CDocuments%5CWENDY%5CMcMaster%5CAREB%5CLatest%20Version%5C3rs.ccac.ca%5C)). There must be clear pedagogical merit when animals are used for teaching and training. Procedures using animals should employ the most humane methods on the most appropriate number of animals required to achieve the desired learning outcomes. **[ ]  I have read the information on this website.** |
|  |
| A) | Are *alternative non-animal methods* used by other instructors to achieve the learning outcomes described in this AUP (e.g., tissue cultures, computer models, videos, demonstrations, etc.)? **IF YES**, describe below why these alternatives are not appropriate for achieving the desired learning outcomes in this AUP (suggested website for alternative methods: [3rs.ccac.ca/](file:///C%3A%5CDocuments%5CWENDY%5CMcMaster%5CAREB%5CLatest%20Version%5C3rs.ccac.ca%5C)). |
|  **[ ]  Yes [ ]  No** |
|  |
|  |  |
|  |
| B) | Why must animals be used to achieve the desired learning outcomes *(check all that apply)*? |
|  | [ ]  | This is a study of animal behaviour. |
|  | [ ]  | The phenomena under study cannot be taught effectively using *in vitro* models or other non-animal alternatives |
|  | [ ]  | Skill development in handling or otherwise working with live animals is a key learning outcome |
|  | [ ]  | Other (elaborate in the space below). |
|  |  |
|  |
| C) | What characteristics of the species you propose to use make them appropriate for study? *Cost is not a primary consideration.* |
|  |  |
|  |
| D)E) | What Resources were consulted in determining that no replacement alternatives are available?

|  |
| --- |
|  |

The teaching or training to be conducted under this AUP:**Do not include animal numbers and groups as they are listed in Section 7.** |
|  | [ ]  | Is *already* planned in detail, and the precise number of animals required is known. |
|  | [ ]  | *Cannot* be planned in detail, and the number of animals required is an estimate. In the space below, briefly describe why it cannot be planned in detail. |
|  |  |
|  |
| F) | What is the basis for your estimate of animal numbers in Section 7? *Note: if more animals are required than estimated here, an AUP Amendment form must be filed, with justification for increased numbers.* |
|  | [ ]  | Pilot studies (provide data below) |
|  | [ ]  | Previous teaching, training, or research by the instructors (provide data or references below) |
|  | [ ]  | Published data in the literature, not from the instructors (provide references below) |
|  | [ ]  | Other (specify below) |
|  |  |

|  |
| --- |
| Section 6 ***Animal Numbers & Classification of Procedures*** |
|  |
| The CCAC requires that each procedure in an AUP be designated *Acute or Chronic*, and assigned a *Category of Invasiveness*. |
| ***Acute*** – Any animal use where animals are euthanized before procedures take place, or where animals are anaesthetized for a procedure, then euthanized while still under anaesthesia. |
| ***Chronic*** – Any other animal use (e.g., where animals recover from anaesthesia or are held for a period of time after any procedure). |
| ***Categories of Invasiveness*** definitions – refer to the **Guide for Preparation of AUPs**. |
|  |
| **Summary of Species** |
| If in doubt about the appropriate category or if the project involves different categories, **list the highest applicable category.****Refer to Animal Census SOP # PRO-039****NOTE:** This latest version of the AUP requires the “Total # column” is for the **ENTIRE 4 years** of the project, NOT the “Total number Per Year” as in previous versions. |
|  | Species | Strain | Total # | Acute/Chronic | Category of Invasiveness |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **\*Genetically Modified animals require completion of a Genetically Modified Animal Form for each strain, available at** <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html>.  |

|  |
| --- |
| Section 7 ***Procedures & Summary*** |
|  |
| **Briefly** describe the learning objectives of the procedures using animals, and why the timing of animal use is relevant to the learning objective (i.e., why must this learning objective be met at this particular stage in the student’s training). |
|  |
|  |
| **Briefly** describe the rationale for why the use of animals is an essential teaching tool for achieving these learning objectives. |
|  |
|  |
| **Detailed Procedures** |
| Describe exactly what will be done to the animals in a step-by-step description when applicable. This must include a description of the student to animal ratio for the procedures, what on-site supervision will be provided for students, what animal related orientation/training will be provided to teaching assistants/technicians (those not listed in Section 3) to ensure they are adequately prepared for their role. Location of animal work must be authorized by the AF. Reference to SOPs (both number and title) must be included when possible (available at <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html><http://www.fhs.mcmaster.ca/healthresearch/areb_guidelines.html>). **Attach flow-charts, diagrams and a copy of the Lab Manual. A copy of the AREB Memo (Experiment(s) involving the use of animals for teaching purposes) should be included in the lab materials.**  If appropriate show relationships between different activities when animals will be used in multiple procedures. Since formatting is limited using forms, this section can be added as an attachment. |
|  |
|  |
| Describe how the success of students in achieving the learning objectives will be evaluated. This could include an evaluation form that is given to students so they can assess the value of using live animals to meeting the learning objectives and otherwise supporting their education (if so, attach a sample evaluation form to your application). |
|  |
|  |
| **Procedures Summary** |
|  |
| A) | ***Housing and Handling*** | Type | Duration |
|  | [ ]  Special diet or deprivation of food |  |  |
|  | [ ]  Deprivation of water |  |  |
|  | [ ]  Stressful environment |  |  |
|  | [ ]  Manual or other restraint |  |  |
|  | [ ]  Assistance of animal facility staff |  |  |
|  | **\*\*\* Will rodents require single-housing for longer than 24 hours?\*\*\***If yes, provide justification. | **[ ]  Yes [ ]  No** |
|  |  |
|  |
| B) | ***Summary of Substances Administered and Fluids Sampled*** |
|  |
|  | ***Substances Administered*** (including anaesthesia, analgesia and euthanasia)Each virus and cell line must be listed separately. It is recommended that cell lines be tested for murine pathogens (consult with veterinary staff). Controlled drugs require licence application (see **Guide for Preparation of AUPs**). |
|  | Substance | Dosage | Volume/Flow | Route | Needle Gauge | Frequency |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |
|  | ***Fluids Sampled*** |
|  | Type | Site | Volume | Needle Gauge | Frequency |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |
|  | Will primary cells or tissues be isolated from animals for in vitro culture? **[ ]  Yes [ ]  No** |
|  | Please note that approval for culture of primary cells/tissues from animals should be sought from the Presidential Biosafety Advisory Committee. |
|  |
|  | Will **Freund’s Complete Adjuvant** be used (see SOPs PRO462, GEN467, GEN582)? **[ ]  Yes [ ]  No** |
|  |
| C) | ***Summary of Surgical Procedures*** (ensure that details are provided under Detailed Procedures) |  |
|  |  |
|  | ***Post-Surgical Monitoring and Care*** | Frequency/Duration |
|  | [ ]  Only monitoring required |  |
|  | [ ]  Care, treatment required |  |
|  | **Surgical monitoring records must be kept at the animal room level.** |
|  |
| D) | ***Disposal of Animals*** (consult SOPs) |
|  |  | **Euthanasia** |
|  | Species | Anaesthetic Overdose | Anaesthesia &CO2  | Anaesthesia & Exsanguination | CO2\* | Cervical Dislocation\* | Decapitation\* | Other |
|  |  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  |  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  | [ ]  |
|  | **\*Physical methods of euthanasia and CO2 alone are not recommended methods by CCAC, therefore, provide scientific justification for physical methods of euthanasia and CO2 alone, and the location carried out.** |
|  |  |
|  | Please note that the University Veterinarian is obligated to treat or euthanize animals in distress. If you cannot be contacted after a reasonable attempt, the decision of the Veterinarian is final. Ensure that arrangements are in place to permit consultation on a 24-hour per day, 7-day per week basis. |

|  |
| --- |
| Section 8 ***Project & Facilities Management*** |
|  |
| A) | **Source of Animals** (Commercial Supplier, Other University, Industry) All animal acquisitions and deliveries **must** be coordinated and purchased through the AF. |
|  |  |
|  |  |
|  |  |
| B) | **Housing of Animals** (for all animal facilities)**Animals ordered from a non-approved source require veterinary approval.** |
|  | Location/Building | [ ]  CAF | [ ]  Axenic Unit | [ ]  PSY | [ ]  NRB | [ ]  JH | [ ]  TaARI |
| [ ]  Barrier | [ ]  Stem Cell Unit | [ ]  LSB | [ ]  SJH | [ ]  JCC |  |
|  |
|  | Level of Housing | ***Rodents*** | [ ]  Sterile | [ ]  Non-Sterile | [ ]  Biohazard |
| ***Rabbits*** | [ ]  SPF | [ ]  Conventional |
| ***Other*** |  |
|  |
|  | ***Special Care***(provide details below) **[ ]  N/A** |
|  |  |
|  |
|  | ***Isolation/Containment/Quarantine*** (provide details below) **[ ]  N/A** |
|  |  |
|  |
|  | ***Are genetically engineered animals contained?*** (if no, provide details below) **[ ]  Yes [ ]  No** |
|  |  |
|  |
| C) | **Location of Procedures Outside of Animal Facility [ ]  N/A** |
|  | Animals removed from the animal facility must be ***signed out*** at the room level.Follow SOP# GEN214 for escaped animals. |
|  | **Procedures** | **Room #** | **Building** |
|  | [ ]  Euthanasia  |  |  |
|  | [ ]  Tissue Collection |  |  |
|  | [ ]  Animal Imaging |  |  |
|  | [ ]  Other Procedures (please list below) |  |  |
|  |  |  |  |
|  | Other Procedure(s)  |  |  |
|  |  |
|  |
|  | **Animal Transport within and between buildings** |
|  | Frequency |  |
|  | From Facility |  |
|  | Destination (Room #) |  |
|  | Describe Route |  |
|  | **Use of animals in patient areas** requires approval **before** project commences. Complete the **Approval to Use Animals in Patient Treatment Areas** form available at <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html>. |
|  |
|  |
| D) | **Enrichment** |
|  | All rodents will have nesting material and a hard structure (e.g. huts/domes) for hiding. **[ ]  Yes [ ]  No** |
|  | If no, provide details on any deviation from the above requirement. |
|  |  |
|  |
| E) | **Veterinary Intervention** |
|  | Can animals receive veterinary care if required? **[ ]  Yes [ ]  No** |
|  | If no, arrange a veterinary consult, and provide rationale and alternative instructions below. |
|  |  |
|  |
| F) | **Potential Hazards**  |
|  |
|  | ***Biohazardous/Infectious Agents* [ ]  N/A**A Biohazard Utilization Protocol (BUP) number must be provided. |
|  | Type | Dosage | BUP # |
|  |  |  |  |
|  |
|  | ***Chemical/Hazardous Drugs* [ ]  N/A** |
|  | Type | Score\* - *one required* | LD50 |
| HMIS | GHS |
|  |  |  |  |  |
|  | **\*For HMIS Score of 2 or above, GHS of 1 or 2, OR any chemical/drug that does not have sufficient information regarding its safety, submit the following to the animal facility prior to starting the work:**1. **Request for Service**
2. **Chemical/Hazardous Drug Risk Assessment form** **available at** [**http://www.fhs.mcmaster.ca/healthresearch/areb\_forms.html**](http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html)
3. **Material Safety Data Sheet (MSDS)Safety Data Sheet (SDS)**

**For further explanation, refer to:** [**http://www.ccohs.ca/oshanswers/chemicals/whmis\_ghs/sds.html**](http://www.ccohs.ca/oshanswers/chemicals/whmis_ghs/sds.html)**.** |
|  |
|  | ***Isotopes* [ ]  N/A**A Radioisotope License form must be submitted. |
|  | Type | Dosage |
|  |  |  |
| Section 9 ***Endpoints*** |
|  |
| Endpoints are required for many **chronic** studies. Consult with Veterinary Staff for clarification. |
|  |
| Are Endpoints required for this AUP? **[ ]  Yes [ ]  No** |
| If yes, complete an **Endpoint Analysis Form** for each applicable procedure available at <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html>. |

|  |
| --- |
| Section 10 ***Keywords*** |
| **Research** | **Procedures** |
| [ ]  Acute Studies | [ ]  Altered Environmental Exposure |
| [ ]  Behavioural – Other | [ ]  Altered oxygen levels |
| [ ]  Behaviour Modification | [ ]  Blood Sampling |
| [ ]  Behaviour Observation  | [ ]  Cold exposures |
| [ ]  Breeding | [ ]  Electrofishing |
| [ ]  Chronic Studies | [ ]  Euthanasia – Physical |
| [ ]  Creation of Novel Transgenics | [ ]  Fetal exposure |
| [ ]  Development of Techniques | [ ]  Food Deprivation |
| [ ]  Drug Efficacy | [ ]  Forced physical activity |
| [ ]  Drug Toxicity | [ ]  Infection Induction |
| [ ]  Endpoint Required | [ ]  Injection  |
| [ ]  Environmental Protection Study | [ ]  Irradiation |
| [ ]  Fauna Conservation Study | [ ]  Marking/Tagging |
| [ ]  Field Study | [ ]  Monoclonal Antibody |
| [ ]  Fundamental Science | [ ]  Oral Gavaging |
| [ ]  Genetically Modified Animals | [ ]  Polyclonal Antibody |
| [ ]  Grafts/Transplants | [ ]  Restraint – Physical |
| [ ]  Live animals taken outside animal facility | [ ]  Special Diet |
| [ ]  Maternal Deprivation/Aggression/Predator Prey | [ ]  Trapping/Netting |
| [ ]  Pilot Studies Required | [ ]  Tumour Induction |
| [ ]  Primary Cell Culture | [ ]  Vaccination |
| [ ]  Product Development *(medical/physical device, artificial organ)* | [ ]  Water Deprivation |
| [ ]  Reinforcement Motivation | [ ]  Water – Treated |
| [ ]  Repurposed Animals | [ ]  Weight Monitoring |
| [ ]  Research |  |
| [ ]  Sentinel Program | **Surgery** |
| [ ]  Study of Product Efficacy | [ ]  Acute Surgery |
| [ ]  Teaching/Education/Training | [ ]  Anaesthesia |
| [ ]  Testing | [ ]  Analgesia |
| [ ]  Testing Regulations Apply | [ ]  Analgesia Withholding |
| [ ]  Tissue Collection | [ ]  Biopsy |
| [ ]  Vaccine Efficacy/Vaccine Toxicity | [ ]  Cannulation |
| [ ]  Validation of Non-Animal Procedure | [ ]  Castration |
|  | [ ]  Catheterization |
| **Agents** | [ ]  Laproscopy |
| [ ]  Biohazard Agent | [ ]  Major Surgery |
| [ ]  Chemical Exposure | [ ]  Minor Surgery |
| [ ]  Freund’s Complete Adjuvant | [ ]  Multiple Surgeries |
| [ ]  Freund’s Incomplete Adjuvant | [ ]  Stereotaxic Surgery |
| [ ]  Immunogenic or Inflammatory Agents | [ ]  Survival Surgery |
| [ ]  Radiation |  |
| [ ]  Radioisotope |  |

*Revised 16 October 2018*