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| mac black | | | | | ANIMAL  Utilization  Protocol | | | | | | | | | | | | | | | |
| 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* | | |  |

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|  |  |  |  |  |  | **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 ***Project Title*** | | | |
|  | | | |
| Title |  | | |
|  | | | |
| Type of Project  *Check all applicable* | Research | New Project | Research Pilot Study |
| Teaching\* | Ongoing Project | Other |
|  | \*Attach Teaching Addendum available at <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html>. | | |

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| Section 2 ***Principal Investigator*** | | | |
|  | | | |
| Last Name |  | First Name |  |
|  | | | |
| Title |  | Department |  |
|  | | | |
| Business Phone |  | Home Phone |  |
|  | | | |
| Emergency Phone |  | Cell/Pager # |  |
|  | | | |
| Laboratory Room # |  | Laboratory Phone |  |
|  | | | |
| Institutional Email |  | | |
|  | | | |
| Mailing Address |  | | |

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| Section 3 ***Personnel and Training*** | | | | |
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| **List all staff personnel working under this AUP. Provide at least one person’s after hours emergency contact number.** | | | | |
| Name | Department | Title  *Co-PI, Tech,*  *Undergrad Student, Grad* | Extension | After Hours Emergency  Contact Number |
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**Is this work being conducted in collaboration with any other Institutions / Facilities?  Yes  No**

|  |
| --- |
| *Please name the institution / facility.(Refer to the AREB Institutional Collaboration Policy (*[*https://fhs.mcmaster.ca/healthresearch/documents/InstitutionalCollaborationsPolicy\_000.pdf*](https://fhs.mcmaster.ca/healthresearch/documents/InstitutionalCollaborationsPolicy_000.pdf%20) *)* |
|  |

If yes, please provide details of the collaboration (work being carried out, what facility the work in taking place at, who is performing the procedures)

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| **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)** |
| **Or visit** [**https://afmtrain.mcmaster.ca/**](https://afmtrain.mcmaster.ca/) |

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| Section 4 ***Funding*** | | | |
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| Pending/  Awarded | Source(s)/Agency(s)  *Use full titles* | Date Awarded  *m/d/yy* | Scientific Review |
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|  |  |  |  |
| \*Non-peer-reviewed applications require completion of a Scientific Review Form available at <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html>. | | | |
|  | | | |
| **Did the research proposal for this funded project originally include animals?  Yes  No** | | | |
| If **No**, please inform Health Research Services about the animal research ethics requirement along with the Research Finance Account Number. | | | |

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| Section 5 ***Lay Description*** | | |
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| 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). Outline the objectives of the project, the experimental approach, and the significance of the expected results to human and/or animal health. Examples are provided in the Guide for Preparation of AUPs. | | |
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| Section 6 ***Justification of Animal Use*** | | |
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| The CCAC requires “that animals should be used only if the researcher’s 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:\Documents\WENDY\McMaster\AREB\Latest%20Version\3rs.ccac.ca\)). Those studies using animals should employ the most humane methods on the most appropriate number of animals required to obtain valid information.  **I have read the information on this website.** | | |
|  | | |
| A) | Are *alternative non-animal methods* used by other investigators for the type of work proposed in this AUP (e.g., tissue cultures*, in vitro* monoclonal antibody, computer models, etc.)?  **IF YES**, describe below why these alternatives are not appropriate for this project (suggested website for alternative methods: | |
| [3rs.ccac.ca/](file:///C:\Documents\WENDY\McMaster\AREB\Latest%20Version\3rs.ccac.ca\)).  **Yes  No** | |
|  | | |
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|  | | |
| B) | Why must animals be used in these experiments *(check all that apply)*? | |
|  |  | This is a study of animal behaviour. |
|  |  | The phenomena under study cannot be reproduced *in vitro.* |
|  |  | This is a pre-clinical study of the *in vivo* effectiveness of a treatment or procedure. |
|  |  | The generation of this reagent *in vitro* is inefficient, not possible or prohibitively expensive (provide data, references or cost analysis in the space below). |
|  |  | Other (elaborate in the space below). |
|  |  | |
|  | | |
| C) | What characteristics of the species you propose to use make them appropriate for the study? *Cost is not a primary consideration.* | |
|  |  | |
|  | | |
| D) | The project 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. |
|  |  | |
|  | | |
| E) | 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 research in our lab (provide data or references below) |
|  |  | Published data in the literature, not from our lab (provide references below) |
|  |  | Other (specify below) |
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| Section 7 ***Animal Numbers & Classification of Experiments*** | | | | | |
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| The CCAC requires that each experiment 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 |
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| **\*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>. | | | | | |

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| Section 8 ***Experimental Procedures & Summary*** | | | | | | | | | | | | | | | | | | | | | | | |
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| **Briefly** describe the objectives of the experiments. | | | | | | | | | | | | | | | | | | | | | | | |
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| **Briefly** describe the experimental rationale (reason or basis for research). | | | | | | | | | | | | | | | | | | | | | | | |
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| **Purpose of Animal Use** | | | | | | | | | | | | | | | | | | | | | |  | |
| **0** | Breeding Colony/Stock | | | | | | | | | | | | | | | | | | | | | | |
| **1** | Studies of a fundamental nature in sciences relating to essential structure or function (e.g., biology, psychology, biochemistry, pharmacology, physiology, etc.). | | | | | | | | | | | | | | | | | | | | | | |
| **2** | Studies for medical purposes, including veterinary medicine, that relate to human or animal disease or disorders | | | | | | | | | | | | | | | | | | | | | | |
| **3** | Studies for regulatory testing of products for the protection of humans, animals, or the environment. | | | | | | | | | | | | | | | | | | | | | | |
| **4** | Studies of the development of products or appliances for human or veterinary medicine. | | | | | | | | | | | | | | | | | | | | | | |
| **5** | Education and training of individuals in post-secondary institutions or facilities. | | | | | | | | | | | | | | | | | | | | | | |
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| **Proposed Experiments** | | | | | | | | | | | | | | | | | | | | | | | |
| Describe exactly what will be done to the animals in a step-by-step description when applicable. Location of animal work must be authorized by the AF. Reference to SOPs (both number and title) must be included when possible (available at <https://afm.mcmaster.ca/>). **Attach flow-charts and diagrams** to show relationships between different activities and demonstrate the distribution of animal numbers in different procedures. Since formatting is limited using forms, this section can be added as an attachment. | | | | | | | | | | | | | | | | | | | | | | | |
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| **Procedures Summary** | | | | | | | | | | | | | | | | | | | | | | | |
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| 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** | | | |
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| B) | ***Summary of Substances Administered and Fluids Sampled*** | | | | | | | | | | | | | | | | | | | | | | |
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|  | ***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 | | | | | |
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|  | ***Fluids Sampled*** | | | | | | | | | | | | | | | | | | | | | | |
|  | Type | | Site | | | | | Volume | | | | | Needle Gauge | | | | Frequency | | | | | | |
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|  | 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. | | | | | | | | | | | | | | | | | | | | | | |
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|  | 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 Proposed Experiments) | | | | | | | | | | | | | | | | | |  | | | | |
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|  | ***Post-Surgical Monitoring and Care*** | | | | Frequency/Duration | | | | | | | | | | | | | | | | | | |
|  | Only monitoring required | | | |  | | | | | | | | | | | | | | | | | | |
|  | Care, treatment required | | | |  | | | | | | | | | | | | | | | | | | |
|  | **Surgical monitoring records must be kept at the animal room level.** | | | | | | | | | | | | | | | | | | | | | | |
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| D) | ***Disposal of Animals*** (consult SOPs) | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | **Euthanasia** | | | | | | | | | | | | | | | | | | | |
|  | Species | | | Anaesthetic Overdose | | Anaesthesia &CO2 | | | Anaesthesia & Exsanguination | | CO2\* | | | Cervical Dislocation\* | | Decapitation\* | | | | | Other | |
|  |  | | |  | |  | | |  | |  | | |  | |  | | | | |  | |
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|  | **\*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. | | | | | | | | | | | | | | | | | | | | | | |

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| Section 9 ***Project & Facilities Management*** | | | | | | | | | | | | | | | | | | | | |
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| A) | **Source of Animals** (Commercial Supplier, Other University, Industry)  All animal acquisitions and deliveries **must** be coordinated and purchased through the AF. | | | | | | | | | | | | | | | | | | | |
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|  | **Will in-house breeding be done?  Yes  No**   |  | | --- | | If yes, are they genetically engineered animals?  **Yes  No** | |  | | If yes, complete **Genetically Modified Animal** Form available at <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html>. | |  | | If no, complete the following: | |  | | Inbred Outbred | |  | | If inbred, justify if brother x sister mating is not being used.   |  | | --- | |  | | | | | | | | | | | | | | | | | | | | | |
|  | Who will be doing breeding? | | | | | | | | | | | | | | | | | |  | |
|  | | | | | | | | | | | | | | | | | | | | |
| If Animal Facility, complete the **Breeding Colony Information and Request** **Form** (**available at** <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html>) for each strain, and submit to the animal facility. | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | DBRI |
| Barrier | | Stem Cell Unit | | | LSB | | | SJH | | | | JCC | | | | | |  |
|  | | | | | | | | | | | | | | | | | | | | |
|  | Level of Housing | ***Rodents*** | | | | Sterile | | Non-Sterile | | | | | Biohazard | | | | | | | |
| ***Rabbits*** | | | | SPF | | Conventional | | | | | | | | | | | | |
| ***Other*** | | | |  | | | | | | | | | | | | | | |
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|  | ***Special Care***(provide details below)  **N/A** | | | | | | | | | | | | | | | | | | | |
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|  | ***Isolation/Containment/Quarantine*** (provide details below)  **N/A** | | | | | | | | | | | | | | | | | | | |
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|  | ***Are genetically engineered animals contained?*** (if no, provide details below)  **Yes  No** | | | | | | | | | | | | | | | | | | | |
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| 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) | | | |  | | | | | | |  | | | | | | | | |
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|  | Other Procedure(s) | | | | | | | |  | | | | | | |  | | | | |
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|  | **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>. | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | |
|  | Do any experiments involve field studies?  **Yes  No** | | | | | | | | | | | | | | | | | | | |
|  | If yes, complete and attach **Field Studies Addendum** available at <http://www.fhs.mcmaster.ca/healthresearch/areb_forms.html> and review the **Risk Management Manual, RMM#801 Guidelines for Field Studies** ( <http://www.workingatmcmaster.ca/rmm/> ) | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | |
| 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**    **Biohazard Level** (Please check)  **Level 1  Level 2  Level 3** | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | |
|  | ***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 | | | | | | | | | |
|  |  | | | | | | | | | |  | | | | | | | | | |

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| Section 10 ***Endpoints*** |
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| 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>. |

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| Section 11 ***Keywords*** | |
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| **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 | Genotyping |
| Endpoint Required | Infection Induction |
| Environmental Protection Study | Injection |
| Fauna Conservation Study | Irradiation |
| Field Study | Marking/Tagging |
| Fundamental Science | Monoclonal Antibody |
| Genetically Modified Animals | Oral Gavaging |
| Grafts/Transplants | Polyclonal Antibody |
| Live animals taken outside animal facility | Restraint – Physical |
| Maternal Deprivation/Aggression/Predator Prey | Special Diet |
| Pilot Studies Required | Trapping/Netting |
| Primary Cell Culture | Tumour Induction |
| Product Development *(medical/physical device, artificial organ)* | Vaccination |
| Reinforcement Motivation | Water Deprivation |
| Repurposed Animals | Water – Treated  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 |
| Pristane |  |
| Radiation |  |
| Radioisotope |  |

*Revised April 2019*