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| twul-b-v | Institutional Animal Care CommitteeAnimal Use ProtocolApplication For Projects Using Vertebrates |

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| The use of animals for research, teaching or testing is a privilege. **Before** an Animal Use Protocol (AUP) to use animals in a project is approved, the investigator/instructor must show that the use of animals is justified, that the project has merit, and that the procedures to which the animals will be submitted will be carried out humanely and in accordance with the Canadian Council on Animal Care (CCAC) guidelines and policies.Each AUP must be approved by Trinity Western University (TWU)’s Institutional Animal Care Committee (IACC) prior to the acquisition and use of animals for research, teaching or testing purposes.Follow the Instructions for Completing AUP Applications at <http://www.twu.ca/research/research/animal-care/protocols.html> .**Please submit the completed, signed application, containing all attachments, and an electronic copy to the IACC Coordinator, Neufeld Science Centre, 7600 Glover Rd, Langley, BC, V2Y 1Y1**. Email: Kehler@twu.ca Tel: (604) 888-7511 ext 3249 | ***For Administrative Use Only*** |
| **Protocol Number** | **Date Received** |
|  |  |
| **Category of Invasiveness** |
|       |
| **Period of Validity (month & year)*****AUP's are valid for one year from IACC approval.******AUPs may be renewed annually for up to 3 consecutive years before a new submission is required. See*** [***http://www.twu.ca/research/research/animal-care/protocols.html***](http://www.twu.ca/research/research/animal-care/protocols.html) ***for renewal forms****.* |

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| Proposed Start Date: | Proposed End Date: | Protocol Version |
|       |       |  [ ] First Submission x Revised Version [ ]  Re submission (every 4th year) |

**1. GENERAL INFORMATION** [ ]  Teaching [ ]  Research

 (complete Appendix A) (complete Appendix B)

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| Course Number (if applicable) and Project Title:       |
| Principal Investigator/Instructor: [ ] Dr. [ ] Prof. [ ] Mr. [ ] Mrs. [ ] Ms. Name:      Academic Position (Rank): [ ]  Faculty [ ] Other (please specify)      Department:     Qualifications and Training with respect to animal use and handling:      |
| Office Address:       | Location of Animals:       |
| Telephone Number (Office): (   )   **-**ext.      Telephone Number (Location of Animals): (   )   **-** ext.      Fax Number: (   )   **-** |
| E-Mail Address:       |
| Declaration: I, the undersigned, assure that all animals used in this proposal will be cared for in accordance with the guidelines and policies of the Canadian Council on Animal Care and Trinity Western University. | Declaration: I, the undersigned, assure that these facilities will meet CCAC guidelines and will be available for the procedures described here. |
| Principal Instructor: Signature: Date:  (M/d/yyyy) | Faculty/School Dean, Trinity Western University:Signature: Date:  (M/d/yyyy)   |

***For Administrative Use Only***

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| **Signatures: Date approved by IACC:** **IACC Chair Printed Name:** **Signature:** **IACC Veterinarian Printed Name:** **Signature:** **Community Member Printed Name:** **Signature:**  |

**2. PROTOCOL DESCRIPTION**

a) Protocol Summary

Using lay terminology, provide a brief description (< 250 words) of the protocol suitable for a press release and public presentation.

It should explain how the proposed use of animals will contribute to the advancement of science, or to outcomes that can reasonably be expected to benefit humans, animals or the environment. Include the merits of the protocol {pedagogical (educational value), scientific, or regulatory}, and the procedures to be used (i.e. Background, Objectives, Methods, Benefits)

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b) Keyword Description Of Protocol

Required by the CCAC for their annual Animal Use Data Form (AUDF). See Instructions for Completing AUP Applications for a list of suggested keywords. Additional keywords may also be used.

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**3. CANADIAN COUNCIL ON ANIMAL CARE CATEGORIZATIONS**

a) Purpose of Animal Use (check one):

[ ]  (0) Breeding Colony/Stock**:** Animals held in breeding colonies (e.g., fish, rodents) that have not been assigned to a particular research, teaching or testing protocol.

[ ]  (1) Studies of a fundamental nature in sciences relating to essential structure or function (i.e. 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 for the development of products or appliances for human or veterinary medicine, animal nutrition, animal reproduction and/or animal care**.**

[ ]  (5) Education and training of individuals in post-secondary institutions or facilities.

b) Category of Invasiveness (check one):

Refer to ‘Categories of Invasiveness in Animal Experiments in the Instructions for Completing AUP Applications available online at <http://www.ccac.ca/en_/standards/policies/policy-categories_of_invasiveness> . Complete the invertebrate protocol application for Category A projects.

 [ ]  B [ ]  C [ ]  D [ ]  E

c) Classification

[ ]  ***Acute*** - Utilizing an animal for a brief period (less than 24 hrs.), followed by euthanasia or return of the animal to source, **or** humanely killing an animal upon receipt or after a brief housing period during which time no manipulations other than standard management procedures are performed, i.e. anaesthetized without recovery, euthanized for tissue collection, etc.

[ ]  ***Chronic*** - maintaining the animal and performing experimental procedures during this time, i.e. feeding trials, antibody production, breeding colony, recovery surgery.

**4. PERSONNEL**

a) Associates/Technical Staff

Name those directly involved in the care and use of animals in this project. Indicate each person’s experience and/or training in animal care and use.

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| --- | --- | --- | --- | --- | --- |
| Name | Department | Position | Phone Number | Email | Qualifications and Training |
|       |       |       | (   )   **-**     |       |       |
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b) Emergency Personnel

Provide two names who must be available evenings and weekends.

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| Name | Department | Position | Work Phone number | After hours phone number |
|  |  |  | (   )   **-**     | (   )   **-**     |
|  |  |  | (   )   **-**     | (   )   **-**     |
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|  |  |  | (   )   **-**     | (   )   **-**     |

c) Additional Assistance Personnel

List personnel who may be required to ensure that the project will be carried out in a competent and humane manner (i.e. Veterinary Consultant or Specialist). State conditions under which they may be called.

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| Name | Position | Qualifications and Training | Work Phone Number | After hours phone number |
|  |  |  | (   )   **-**     | (   )   **-**     |
|  |  |  | (   )   **-**     | (   )   **-**     |

**5. ANIMAL USE**

a) List all animals involved in the study.

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| Number per year | Species /Strain | Weight /Age | Gender | Accommodation Building & Room  | Experimental AreaBuilding & Room (surgery or procedure rooms) | Source |
|       |       |       |       |       |       |       |
|       |       |       |       |       |       |       |
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|       |       |       |       |       |       |       |

b) Specify the environmental enrichment provisions, i.e. social housing, specific materials, space, objects, etc.

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| Refer to the CCAC’s ‘Social & Behavioural Requirements of Experimental Animals’, (Appendix 2), or the CCAC Guide to the Care & Use of Experimental Animals Vol. - 2nd Edition p.51-74. |
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c) Regulatory Requirements. Copies of all authorizations to be included with approved protocol, if applicable.

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| [ ]  collection permit #      [ ]  transport permit #      [ ]  biohazards (specify)       [ ]  controlled substance (specify)      [ ]  other (specify)      [ ]  prescriptions (specify)      |

**6. ANIMAL USE JUSTIFICATION AND ALTERNATIVES**

The CCAC policy statement “Ethics of Animal Investigation” requires investigators/instructors to follow the “Three Rs” of Russell and Burch (1959): Replacement (of animals with other, non-sentient material or with animals of lower sentience); Reduction (of numbers of animals used): and Refinement (of technique, “to reduce to an absolute minimum the amount of distress imposed on those animals that are still used”.)

a) Justify the choice of species and strain.

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| Explain the characteristics of the animal that make the species or strain appropriate for the research or teaching objectives, i.e. structural behavioural, physiological, biochemical or other features or considerations. Cost may not be used as a justification. |
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b) Justify the proposed numbers to be used, explaining why these numbers are needed (e.g., indicate group size, statistical analyses).

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c) Explain the necessity of using animals in this study, and why alternatives (in-vitro and ex-vivo systems) would be inappropriate to meet your project or course objectives.

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| The CCAC requiresthat explicit reasoning be provided for the selection of an animal model over alternatives such as an in vitro biological system, a computer simulation, or mathematical model. Stating that a replacement alternative is not available is insufficient. |
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d) Indicate any alternatives to animal use that are already incorporated into the project or course design (in vitro & ex vivo systems).

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e) List any databases searched for alternatives. (Suggested reference: CCAC Three Rs Search Guide at <http://searchguide.ccac.ca>)

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f) Explain refinements that have been made to minimize pain, distress and/or discomfort to the animals, i.e., modified procedures.

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**7. PROCEDURES**

a) List *all* procedures, manipulations, &/or measurements that will be performed on the animals.

| **Procedures**Including injection of compounds, e.g. antibiotics, experimental chemical, etc. | **Animals involved** (species/ strain & quantity) | **Amount/Site/ Frequency** | **Analgesic/ Anesthetic provided?****Y/N** | **Person performing** |
| --- | --- | --- | --- | --- |
|       |       |       |       |       |
|       |       |       |       |       |
|       |       |       |       |       |
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b) Are the persons performing the above procedures trained?

[ ]  Yes [ ]  No

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| If individuals are being trained to perform procedures, indicate who will be training them and the qualifications of the trainer. |
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c) Specify the criteria that will be used to assess the level of training, analgesia and/or anaesthesia required.

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d) Give a ***sequential, detailed*** description of all procedures, manipulations and techniques to be used on animals in this project.

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| Use terminology understandable to ACC members with widely different backgrounds (including non-scientists). If multiple procedures are to be performed, flow diagrams may be useful.**For projects with multiple and/or routine procedures, refer to approved Standard Operating Procedures (SOPs) wherever possible. Attach a copy of any SOPs that are not already on file with the ACC.**Describe any potential side effects and Indicate what measures will be taken to alleviate or minimize any pain, distress or discomfort. Include post-operative care, analgesics & anaesthetics, and any special procedures used. Dosages of drugs need not be specified as they are to be provided in the following section. |
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**8. DRUGS AND CHEMICAL USE**

a)List all experimental, prophylactic and therapeutic drugs, chemicals and biologicals that may be used.

Give dosage, routes of administration, and duration of action. Name the person administering the agent(s).

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| Drug | Dosage and Frequency | Route | Duration | Person Responsible |
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| What are the expected/potential side effects of these drugs? |
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b) Provide the anesthetic regime to be used, if applicable.

Provide dosages, routes of administration, and duration of action. Include the name of the person who will be administering and monitoring anesthesia.

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| Drug | Dosage | Route | Duration | Person Responsible |
|       |       |       |       |       |

c) Provide the analgesic regime which may be required for each species.

Provide dosages, routes of administration, and duration of action. Include the name of the person who will be administering and monitoring anesthesia.

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| Drug | Dosage and Frequency | Route | Duration | Person Responsible |
|       |       |       |       |       |

d) Euthanasia.

If euthanasia is required, provide dosages, route of administration and the name of the person who will administer the euthanasia procedure.

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| --- | --- | --- | --- |
| Drug | Dosage  | Route | Person Responsible |
|       |       |       |       |

**9. MONITORING, END POINTS AND FATE OF ANIMALS**

a) Specify the frequency of observations and methods for monitoring the condition of the animals, during capture, handling, procedures and post-procedurally or post-release. Indicate who will provide such care.

Include a checklist of signs and symptoms to be used when evaluating the animals, if applicable.

A baseline parameter is that a normal animal should be examined at least once per 24 hour period as part of a routine health check.

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| --- | --- | --- |
| Name | Contact Number | Qualifications/Training |
|       | (   )   **-**     |       |

b) Indicate any clinical conditions or abnormalities *expected or that could arise* as a result of the proposed research or teaching exercise (e.g. behavioural changes such as increased grooming, vocalization or postural changes, or physical abnormalities such as anorexia, dehydration, diarrhoea, etc.)

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**Endpoints**

In order to minimize animal pain and/or distress, all procedures must have a clearly identified “endpoint”. The term “endpoint” is defined by the CCAC as the point at which an experimental animal’s pain and/or distress is terminated, minimized or reduced, by taking actions such as killing the animal humanely, terminating a painful procedure, or giving treatment to relieve pain and/or distress.

In experiments involving animals, any actual or potential pain, distress, or discomfort should be minimized or alleviated by **choosing the earliest endpoint that is compatible with the scientific objectives of the research or teaching exercise.**

c) In terms of species-specific behavioural changes and physiological signs, what criteria will determine that the endpoint has been reached?

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d) Who is responsible for determining the endpoint has been reached?

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**Fate of Animals**

e) Specify the intended fate (eg released, euthanized, relocated, etc) of the animals and, where necessary, how the animals are to be disposed following the study. Include the name of the person performing euthanasia.

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| If a physical method of euthanasia is to be used, eg cervical dislocation, justify its use. If approved, competence will need to be demonstrated in the presence of a qualified IACC member.  |
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**f) EMERGENCY VETERINARY CARE:**

In the event of an animal health emergency, if contact cannot be made with the listed individuals, the decision of the attending Veterinarian will be final.

Is normal veterinary care appropriate for animals in this project? [ ]  YES [ ]  NO

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| If NO, attach specific instructions on any veterinary indications / contra-indications with the animal facility supervisor in case an emergency should arise. |
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**10. HAZARDS**: *Please contact the Occupational Health & Safety Committee for current recommendations.*

Will any of the following hazardous agents be used in this project? [ ] YES [ ]  NO

If yes, indicate the agent(s) below.

|  |  |
| --- | --- |
| [ ]  chemicals[ ]  biologicals[ ]  radioisotopes[ ]  infectious agents[ ]  radiation [ ]  x-rays [ ]  Other (specify)  | Specify Agent(s) :      |
| Provide authorization information if applicable, e.g., Radiation Certificate Number, Biosafety Certificate Number, etc.      |
| What occupational health and safety risks are there, if any?       |
| Specify what special animal care is required.      |

**11. ADDITIONAL INFORMATION**

For projects involving the following, additional forms must be completed as appendices

Please check off those appendices that are attached:

**Appendix 1: Teaching/Display** **[ ]**

**Appendix 2: Research** **[ ]**

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| Are there any additional comments you would like to make? |
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| **Reviewer’s Comments:** *(This section is for use by IACC members.)* |
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**APPENDIX A**

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| **BRIEF SUMMARY OF PEDAGOGICAL MERIT**(applicable only for teaching/display projects) |

**The CCAC requires that all teaching programs provide an indication of pedagogical merit (i.e., the educational value) of the project.**

1. Course Name and number:

2. Please explain the advantages of using live animals or animal preparations over a demonstration, film, videotape, computer simulation or other model.

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3. How are you maximizing the educational gain from the animals used?

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4. Who provides the on-site supervision of the students working on the animals?

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5. How many students participate?

6. What is the ratio of students to animal or group of animals?

7. What is the ratio of students to instructor?

**APPENDIX B**

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| **BRIEF SUMMARY OF SCIENTIFIC MERIT**(applicable only for research projects) |

The CCAC requires that all research projects be peer reviewed for scientific merit. If the review has not been carried out by an external, peer review agency, the Institutional Animal Care Committee (IACC) will contact the protocol applicant as the IACC will require that it be obtained according to the CCAC guidelines on: animal use protocol review, 1997 and the CCAC Policy on the Importance of Independent Peer Review of the Scientific Merit of Animal-Based Research Projects, 2000.

Potential Benefit of the Research

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| Provide specific scientific objectives and the potential value of the research. |
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Funding Information

|  |  |
| --- | --- |
| **Agency / Source of Funds:*****Funding Source*:**  [ ]  Internal [ ]  ExternalStatus [ ]  Awarded [ ]  Pending***Secondary or other Source***:  [ ]  Internal [ ]  ExternalStatus [ ]  Awarded [ ]  Pending***Funding Start Date (M/d/yyyy):*** (     )***Funding Finish Date(M/d/yyyy):*** (     ) | ***Funds Administered by***:**[ ]**  Trinity Western University 🡪 *Cost Centre (G/L) Number:*      -      (Required for invoicing of project costs)**[ ]**  Other (Provide Details)     ***Peer Review:***Has this research proposal been peer reviewed? **[ ]**  Yes **[ ]** NoIf “yes,” **[ ]**  Internally **[ ]** ExternallyName(s):       |