APPENDIX A

GENERAL REFERENCES

**GENERAL REFERENCES**


**EthyCS, Animal Welfare, AND THE USE OF ANIMALS IN BIOMEDICAL RESEARCH, EDUCATION, AND TESTING**


**INSTITUTIONAL ANIMAL CARE AND USE COMMITTEES**


**RECOGNITION AND ALLEVIATION OF PAIN AND DISTRESSISURGERY**


EUTHANASIA


BIOLOGY, HUSBANDRY, AND CARE


SPECIES-SPECIFIC REFERENCES


For further species specific references, contact the Office of Research and Sponsored Programs.
GENETICS AND NOMENCLATURE


NUTRITION


OCCUPATIONAL HAZARDS AND LABORATORY SAFETY


For further references and information on University of Wisconsin policies and procedures, contact the Office of Risk Management and Safety

PATHOLOGY AND THERAPY


DESIGN OF EDUCATIONAL COURSES

Design of a Course to Introduce Research Personnel in the Care and Use of Laboratory Animals. DR. Faulkner. 1989. Lab Anim. 18(1)21-25.

APPENDIX B

ORGANIZATIONS CONCERNED WITH ANIMALS USED FOR RESEARCH, TEACHING, AND OTHER ACTIVITIES
**ORGANIZATIONS CONCERNED WITH ANIMALS USED FOR RESEARCH, TEACHING, AND OTHER ACTIVITIES**

American Association for Accreditation of Laboratory Animal Care (AAALAC)

11300 Rockville Pike, Suite 1211, Rockville, MD 20852-3035

FAX: 301-231-8282

Web: http://www.aaalac.org/

AAALAC is a non-profit corporation composed of scientific and professional organizations interested in laboratory animal care. It was organized in 1965 to conduct a voluntary program for the accreditation of laboratory animal care methods and facilities. This program strives to improve the welfare and health of laboratory animals and thereby facilitate animal research.

American Association For Laboratory Animal Science (AALAS)

9190 Crestwyn Hills Drive, Memphis, TN 38125

Telephone: 901-754-8620

FAX: 901-753-0046

Web: http://www.aalas.org/

Email: info@aalas.org

AALAS is a non-profit organization made of individuals and institutions professionally concerned with the production, care, and study of laboratory animals. Formerly the Animal Care Panel, it was organized in 1950 and serves as a clearinghouse for the collection and exchange of information on all phases of the care and management of laboratory animals. This objective is accomplished through its annual sessions - bimonthly journal, Laboratory Animal Science (formerly Laboratory Animal Care), AALAS Bulletin, and other publications.

American College of Laboratory Animal Science (ACLAM)

c/o Dr. Melvin W. Balk, Executive Director, 96 Chester Street, Chester, NH 03036

Telephone: 603-887-2467

FAX: 603-887-0096

Email: mwbaclam@gsinet.net

ACLAM was founded in 1957 to encourage education, training and research in laboratory animal medicine; to establish standards of training and experience for veterinarians professionally concerned with the care and health of laboratory animals; and to recognize qualified persons in laboratory animal medicine by certification examinations and other means. ACLAM was incorporated under the laws of the state of Illinois as a non-profit organization and is a specialty recognized by the American Veterinary Medical Association. The educational programs of ACLAM also receive great emphasis in apprising the membership and the scientific community of advances in laboratory animal medicine.

American Humane Association (AHA)

63 Inverness Drive East, Englewood, CO 80112-5117

Telephone: 303-792-9900

Web: http://www.americanhumane.org/

AHA, a non-profit organization established in 1877, is a national federation for the prevention of cruelty of children and animals. AHA's Animal Protection Division has recently helped draft the equivalent of a "bill of rights" for farm animals.
American Society for Laboratory Animal Practitioners (ASLAP)

c/o Patricia Brown, Office of Lab Animal Science, NCI, Bldg. 31, Rm. 4A34, 31 Center Drve, MSC 2471, Bethesda, MD 20892-2471
Web: http://www.aslap.org/

ASLAP was incorporated in the state of Illinois on July 11, 1967, and was officially recognized as an auxiliary organization of the American Veterinary Medical Association. On July 3, 1968, the Society became an affiliate of the American Association for Laboratory Animal Science.

ASLAP promotes the dissemination of ideas, experiences and knowledge among veterinarians engaged in laboratory animal practices. It also encourages postgraduate education of veterinarians, provides training, and encourages research in basic and clinical problems relating to laboratory animal practice, acts as spokesperson for its members before the veterinary profession and other medical organizations or groups, and actively encourages the training of veterinarians in laboratory animal medicine, at both the pre- and post-doctoral levels, assisting those carrying on such training programs.

American Society for the Prevention of Cruelty to Animals (ASPCA)

424 East 92nd Street, New York, NY 10128-6804
Telephone: 212-876-7700
Web: http://www.aspca.org/

ASPCA was founded in 1866 by Henry Bergh as a non-profit organization for the prevention of cruelty to animals. The ASPCA, oldest and largest humane organization in the western hemisphere, recognizes the need for animals in research. Believing that pain and suffering should be eliminated to the maximum extent consistent with the experiment, the ASPCA is helping the scientific community reach the goal of humane treatment for all laboratory animals. Furthermore, believing only well-cared for animals can produce valid research results, the ASPCA is also contributing to sound research practices.

American Veterinary Medical Association (AVMA)

1951 North Meacham Road, Suite 100, Schaumburg, IL 60173
Telephone: 847-925-8070
FAX: 847-925-1329
Web: http://www.avma.org/

AVMA is a non-profit, national association of veterinarians established in 1863 (formerly known as the United States Veterinary Medical Association). AVMA’s basic, overall purpose is the advancement of the science and art of veterinary medicine, including its relationship to public health and agriculture. In striving to develop and maintain the highest standards of professional competence and conduct, the AVMA seeks to:

a. Encourage improvement of professional and post-doctoral medical education.
b. Inform the public about matters of animal and public health.
c. Work with health-related professional organizations on matters of mutual and public concern.
d. Support research in the continuing effort to improve animal and human health.
e. Promote and enhance service to clients, animal patients, and the general public.
f. Recognize and encourage outstanding accomplishments by veterinarians.

Animal Welfare Institute (AWI)

P.O. Box 3650, Washington, DC 20007
Telephone: 202-337-2332
FAX: 202-338-9478
Web: http://www.animalwelfare.com/

AWI was founded in 1951 for the advancement of the welfare of all animals, but with special emphasis on research animals. The AWI has also established the Society for Animal Protective Legislation to further its aim.
Association for Gnotobiotics (AG)

c/o Roswell Park Memoral Institute, 666 Elm Street, Buffalo, NY 14263
Web: http://www.cvm.ncsu.edu/research/agsite/aghome.htm

AG was formed in 1960 to stimulate research in the field of basic and applied gnotobiotics and expedite the dissemination of information relative to gnotobiotics and gnotobiotic technology. It stimulates the production, maintenance, distribution and use of gnotobiotics, and has established standards for gnotobiotic microbiological testing and husbandry practices, as well as a certification program. AG also works to standardize an acceptable nomenclature in the field.

Humane Society of the United States (HSUS)
2100 L Street, NW Washington, DC 20037
Telephone: 202A52-1 100
Web: http://www.hsus.org/

HSUS (formerly the National Humane Society) was founded in 1954 by three former directors of the American Humane Association. The three former directors of the AHA, Fred Myers, Director of the National Humane Review (the official magazine of the AHA), Helen Jones, Director of Education for AHA and Larry Andrews, Director of Field Services for AHA, resigned from the AHA in response to AHA’s non-support of their attack on the National Society for Medical Research organization. The NSMR was attacked for its policies of indiscriminate procurement and use of animals. HSUS is a non-profit organization chartered to prevent cruelty and suffering to all animals.

Institute of Laboratory Animal Resources (ILAR)

National Academy of Sciences, 2101 Constitution Avenue, NW Washington DC 20418
Telephone: 202-334-2590
FAX: 202-334-1687
Web: http://www4.nas.edu/cls/ilarhome.nsf

ILAR was founded in 1952 under the auspices of the National Research Council (NRC) and its parent organization, the National Academy of Sciences (NAS). A component of the Division of Biological Sciences, Assembly of Life Sciences, ILAR serves as a coordinating agency and a national and international resource for compiling and disseminating information on laboratory animals, promoting education, planning and conducting conferences and symposia surveying existing and required facilities and resources, upgrading laboratory animal resources, and promoting high quality, humane care of laboratory animals in the United States.

National Association for Biomedical Research (NABR)

818 Connecticut Avenue, NW Suite 303, Washington, DC 20006
Telephone: 202-857-0540
FAX: 202-659-1902
Web: http://www.nabr.org/

The ABR (formerly Research Animals Alliance) was founded in 1979 as a direct response to the increasingly restrictive laws and regulations being promulgated by the government related to the use of animals in research. In 1984, ABR combined with the National Society for Medical Research (NSMR) to form the NABR, which acts as a clearinghouse for information, and monitors proposed, pending and existing laws, rules and regulations. It also provides reference materials, expert witnesses to participate in public hearings, and attempts to coordinate and establish uniform standards worldwide for the laboratory animal industry.
Scientists Center for Animal Welfare (SCAW)

7833 Walker Drive, suite 340, Greenbelt, MD 20770
Telephone: 301-345-3500
FAX: 301-345-3503

SCAW was established in 1978 as a non-profit educational organization whose goals are to engage in analysis and to improve the welfare of animals by reducing unnecessary suffering. The Center seeks to introduce alternatives where possible, and holds that high standards of animal welfare complement the quality of scientific results. The Center recognizes the benefits and need for biomedical experimentation on animals, but is dedicated to the principle that a humane concern for animals should be incorporated into the scientific process. For more information, write Scientists Center for Animal Welfare at the above address.

United States Department of Agriculture (USDA)

Washington, D.C. 20250
Telephone: 202-720-2791
Web: http://www.usda.gov/

The Veterinary Services Office of the Animal and Plant Health Inspection Service (APHIS) has the assigned responsibility for the enforcement of the Animal Welfare Act. In addition, they maintain national laboratories in Ames, Iowa, and Plum Island, New York, for the investigation of serious, zoonotic, and foreign disease problems. They are a valuable reference service to the nation’s diagnostic laboratories.

Wisconsin Association for Biomedical Research and Education (WABRE)

750 North 18th Street, Suite 110, Milwaukee, WI 53233
Telephone: 414-933-9500
Web: http://www.wabre.org

WABRE is a nonprofit educational organization dedicated to improving human and animal health through animal research. WABRE is founded on the belief that informed public understanding of the benefits, conduct and regulation of animal research within our state is essential for continued progress in human and veterinary medicine, as well as for medical education and agricultural research. WABRE strongly supports the continued role of animals in research since, in many cases, no alternative exists to promote better human and animal health. WABRE affirms that individuals engaged in research involving animals have both a moral and legal responsibility to assure their humane care and protection.
APPENDIX C

IMPORT, EXPORT, AND WILDLIFE SOURCES
IMPORT, EXPORT, AND WILDLIFE SOURCES

United States Department of Agriculture
Washington, D.C. 20250
Telephone: 202-720-2791
Web: http://www.usda.gov/

Department of Natural Resources
Southeast Region
2300 Martin Luther King Drive
P0 Box 12436
Milwaukee, WI 53212
Telephone: 414-263-8500
Web: http://www.dnr.state.wi.us

Department of Natural Resources
Bureau of Wildlife Management
Telephone: 608-266-1877

Wisconsin Department of Commerce
123 West Washington Avenue
Madison, Wisconsin 53703
Telephone: 608-266-1018
Web: http://badger.state.wi.us/agencies

The Centers for Disease Control and Prevention
1600 Clifton Road, Northeast
Atlanta, Georgia 30333
Telephone: 404-329-3311
Web: http://www.cdc.gov/

United States Fish and Wildlife Service
Region 3
1 Federal Drive
BHW Federal Building
Fort Snelling, MN 55111
Web: http://www.fws.gov/
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<th>TELEPHONE</th>
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<tbody>
<tr>
<td>Jenna Buley</td>
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APPENDIX E

UW SYSTEM EUTHANASIA GUIDELINES
**UW System Euthanasia Guidelines**

Generally, it is the policy at the UW System, USDA, and NIH to follow the guidelines of the AVMA Panel on Euthanasia. Modes, methods, agents, and precautions are discussed in the report. All vertebrate animals on campus that are to be killed during the course of or at the conclusion of an experiment must be euthanized using an approved method. The method of euthanasia to be employed must be included in the University of Wisconsin-Whitewater Protocol Review Form. The procedures are reviewed by the animal care committee for ethical acceptability for the species involved.

Euthanasia by definition is a quick, painless death. Pain can be defined as the perception of distress that results from nerve impulses reaching the cerebral cortex. Therefore, the unconscious animal cannot experience pain. Rapidly occurring unconsciousness followed by respiratory and cardiac arrest is required for the method to be acceptable. At the conclusion of the euthanasia procedure, a follow-up exam is required to confirm the absence of a heartbeat. There are horror stories of animals assumed to be dead who reportedly begin to revive later.

The investigator has the responsibility of choosing a proper euthanasia method both on ethical grounds and on the compatibility with the experimental data needed from post-mortem examinations. The humanitarian requirements of the method cannot be ignored in the urgency and/or need to obtain significant experimental results.

Euthanasia may be required during the course of an experiment. Investigators have a moral obligation to alleviate unnecessary pain and suffering. "An animal that is observed to be in a state of severe pain which cannot be alleviated should be immediately destroyed." It is sometimes difficult to recognize pain and suffering and species may vary in their manifestations. All personnel working with animals should be familiar with the signs of pain and suffering in their particular species. Clinically obvious depression, loss of appetite and vocalization are possible signs of stress and pain.

**MODES AND METHODS**

Judging the humaneness of a particular euthanasia method can be difficult for an uninformed observer. During the process of euthanasia, movements of an animal's body (muscle contractions) do not necessarily indicate consciousness, nor does lack of movement in response to painful stimuli indicate the absence of pain (such as under the influence of curariform drugs).

There are three modes of action for euthanizing agents.

1. Hypoxia/hypoxemia
2. Direct depression of neurons
3. Physical damage to brain (CNS) tissue

The best choice depends on the use of the animal postmortem, safety to personnel, and the ethical considerations already discussed.

**METHODS**

As in any procedure involving animals, restraint and handling play a vital role. The proper physical control and environment will minimize discomfort and maximize safety and smoothness of operation. The procedure should be performed out of sight and hearing range of other animals and in a calm and preferably familiar environment.

**Unacceptable methods:**

1. Strychnine
2. Curariform drugs alone are condemned
3. Exanguination without prior anesthesia
4. Drowning without prior anesthesia
5. Electrocution
RECOMMENDED METHODS BY SPECIES

RODENTS:

1. **Inhalation agent overdose** (ether, halothane, methoxyflurane). These must be used under a hood. They act by direct depression of vital neurons. This is one of the less desirable methods due to its danger to personnel and difficulty in volatilizing methoxyflurane.

2. **Guillotine (decapitation)**. This is to be used with small rodents only. Some recommend that the head be immediately placed in liquid nitrogen. However, a new study questions the effectiveness of using liquid nitrogen. We now recommend that the animal be sedated or lightly anesthetized. There are few tissue changes with this technique. Since existing data suggests that animals remain conscious for 13-14 seconds following decapitation, we discourage this technique and will accept it only with scientific justification and scrutiny.

3. **Nitrogen gas**. Although effective in a closed chamber system, it is less preferable than other methods. Newborn animals will survive much longer than adults. Rats may exhibit signs of distress and panic before collapsing and dying. This is a hypoxic agent; tissue changes associated with hypoxemia may occur.

4. **CO\textsubscript{2} chamber**. CO\textsubscript{2} rapidly acts by direct depression of cerebral cortex. Length of time to effect may be prolonged in immature animals. There are no changes in cellular structure, however, some involuntary muscle activity after unconsciousness may be noticed. There are specific chambers made for this purpose. It is important that the flow be adequate to eliminate layering of the gas which will cause the animals to seek any air left at the top of the chamber thus causing death from stress and not from hypoxia. This is the preferred method under the proper conditions.

5. **Barbiturate overdose**. Given intraperitoneally in rodents, this works quickly, as it does in all species, by depressing CNS functioning beginning in the cerebral cortex and moving to the respiratory center. Cardiac arrest quickly follows. Pentobarbital is the most frequently used barbiturate. It will cause drug residues and an enlarged spleen. Aesthetically it is considered more acceptable due to the appearance of putting the animal under general anesthesia first. A disadvantage is that the DEA requires strict accounting of all drug uses.

6. **Cervical Dislocation**. (Used in mice, hamsters, gerbils and immature rats.) This technique causes direct depression of the brain. It may be distasteful to some due to violent muscle contractions which usually follow. The technique requires training and skill. The tissues remain unaltered by chemicals. The best choice for individual animals when the technician has proper training and skills.

7. **Microwave**. Only microwave chambers specifically designed for use on rats and mice can be used. They direct most of their energy to the head causing immediate unconsciousness and death. The method is useful for neurobiologists in fixing brain metabolites without loss of anatomical integrity.

FISH:

After anesthetization with MS-222, or 4-Styrlpyridine added to the water, the fish may be exsanguinated, decapitated if small, or placed in a CO\textsubscript{2} chamber.

AMPHIBIA:

They must be tranquilized by refrigeration and decapitated or anesthetized with MS-222 then exsanguinated.
REPTILES:

Reptiles will become more tractable if they are refrigerated at 40-45 degrees for 15-20 minutes. Ketamine can be given to induce general anesthesia. At this point decapitation and/or exsanguination is a suitable method for euthanasia. An overdose of pentobarbital or other barbiturate given P or IV is preferable. Confirmation of death requires more care in reptiles particularly if they have been refrigerated first.

BIRDS:

Because of the bird's high respiratory rate, an overdose of anesthetic inhalant agents will work well (i.e. ether, halothane, methoxyflurane). Personnel, however, must take precautions when working with these agents. CO₂ also works well, but birds may show some distress before losing consciousness. T-61 appears to have a smoother induction than barbiturates in birds. These are given IV, most often injected in the wing vein. Cervical dislocation is acceptable only in chickens and small turkeys.

RABBITS, CATS, DOGS AND HORSES:

Dogs, cats and horses have close cultural bonding to humans. Putting companion type animals "to sleep" is best accomplished by using barbiturates or specific euthanizing agents such as T-61. These drugs must be given IV; veins in all these species are readily accessible. Horses are often sedated prior to administering the euthanizing agent. **1. Barbiturates.** Two people should be used to perform the procedure. Tissue changes from these drugs are well known. **2. T-61.** This is a non-narcotic mixture of three drugs, which have general anesthetic, curariform, and local anesthetic actions. Currently it is not controlled by the DEA. The mode of action is direct depression of CNS and heart muscle. There will be tissue residues and the drug may cause pulmonary edema and other tissue lesions.

PRIMATES:

Primates have a phylogenetic closeness to humans. Because they tend to be on long term experiments and are well known to the animal care staff, special care must be taken when euthanizing them. Chemical restraint with ketamine precedes an overdose of pentobarbital. This may be given IV without the animal being aware of what is taking place. T-61 is an acceptable substitute for the barbiturate, but it is generally felt that its course of action is not as smooth.

LARGE ANIMALS:

Large food producing animals used in research and teaching require different considerations. Personal attachments are uncommon due to historic cultural use and the genetic breeding towards a herd animal. These animals however must be euthanized using the same criteria of rapid loss of consciousness. Their physical size and strength require special attention to the safety of the handlers. Drugs may leave residues which will make the meat unfit for human consumption.

1. **Captive bolt.** This method causes physical damage to the cerebrum and brainstem. A retractable bolt propelled by gunpowder is directed toward the center of the brain. The animals must be adequately restrained to ensure proper placement of the bolt. This procedure is followed with exsanguination.

2. **Intravenous injection of barbiturates and T-61.** If the animal is not to be used for food consumption then this is the preferred method.
APPENDIX F

GUIDE FOR THE CARE AND USE OF LABORATORY ANIMALS
Guide for the Care and Use of Laboratory Animals: Eighth Edition

Visit the National Academies Press online, the authoritative source for all books from the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council:

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Copies of the Guide are available for check-out from the Office of Research and Sponsored Programs, 2255 Andersen Library, University of Wisconsin-Whitewater, 800 West Main Street, Whitewater, WI 53190, Telephone: 262-472-5398, FAX: 262-472-5214, E-mail: rsp-compliance@uww.edu
APPENDIX G

UNIVERSITY OF WISCONSIN-WHITEWATER
INSTITUTIONAL ANIMAL CARE AND USE

ANIMAL STUDY PROPOSAL
[Protocol Submission and Review Form]
# A. ADMINISTRATIVE DATA

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**Funding Source**

**List the names of all individuals authorized to conduct procedures involving animals under this proposal and identify key personnel role [e.g., co-investigator(s)], providing their department, telephone, fax, and email:**

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### B. ANIMAL REQUIREMENTS

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<tr>
<td>Strain, subspecies, or breed: [e.g., C57BL]</td>
<td>Common name: [e.g., black laboratory mouse]</td>
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<td>Bacteriological status: [e.g., germfree (axenic), defined flora (gnotobiotic), specific pathogen free, conventional]</td>
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<tr>
<td>Viral status: [e.g., simian immunodeficiency virus, simian retrovirus]</td>
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<td>Source(s): [e.g., name of vendor or breeder, bred in-house]</td>
<td></td>
</tr>
<tr>
<td>Primary housing location(s): [Facility manager must certify below that facility has the resource capability to support the study. If animals will be housed in lab or anywhere else outside central facility for more than 12 hours, provide building and room number or other address.]</td>
<td></td>
</tr>
</tbody>
</table>

- Upham Lab
- Other (describe below)

Location(s) where manipulation will be conducted:

Number of Animals to be Used:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<tbody>
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</tbody>
</table>

Total:
C. TRANSPORTATION

Transportation of animals must conform to all institutional guidelines/policies and federal regulations. If animals will be transported on public roads or out of state, describe efforts to comply with USDA regulations. If animals will be transported between facilities, describe the methods and containment to be utilized. If animals will be transported within a facility, include the route and elevator(s) to be utilized.

D. STUDY OBJECTIVES

Briefly explain in language understandable to a layperson the aim of the study and why the study is important to human or animal health, the advancement of knowledge, or the good of society.
E. RATIONALE FOR ANIMAL USE  (Use additional sheets if necessary.)

1. Explain your rationale for animal use.  (The rationale should include reasons why non-animal models cannot be used.)

2. Justify the appropriateness of the species selected.  (The species selected should be the lowest possible on the phylogenetic scale.)

3. Justify the number of animals to be used.  (The number of animals should be the minimum number required to obtain statistically valid results.)

F. DESCRIPTION OF EXPERIMENTAL DESIGN AND ANIMAL PROCEDURES  
(Use additional sheets if necessary.)

Briefly explain the experimental design and specify all animal procedures.  This 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.  Specifically address the following:

- Experimental injections or inoculations (substances, e.g., infectious agents, adjuvants, etc.; dose, sites, volume, route, and schedules)
• **Blood withdrawals** *(volume, frequency, withdrawal sites, and methodology)*

• **Surgical procedures** *(Provide details of survival and non-survival surgical procedures in Section G.)*
- **Behavioral studies**

- **Radiation** *(dosage and schedule)*

- **Methods of restraint** *(e.g., restraint chairs, collars, vests, harnesses, slings, etc.)* Include how animals are restrained for routine procedures like blood withdrawals. Prolonged restraint must be justified with appropriate oversight to ensure it is minimally distressing. Describe any sedation, acclimation, or training to be utilized.
- **Animal identification methods** (e.g., ear tags, tattoos, collar, cage card, implant, etc.)

- **Other procedures** (e.g., survival studies, tail biopsies, etc.)

- **Resultant effects**, if any, that the animals are expected to experience (e.g., pain or distress, ascites production, etc.)

- **Other potential stressors** (e.g., food or water deprivation, noxious stimuli, environmental stress) and **procedures to monitor and minimize distress**. If a study is USDA Classification E, indicate any non-pharmaceutical methods to minimize pain and distress.

- **Experimental endpoint criteria** (e.g., tumor size, percentage body weight gain or loss, inability to eat or drink, behavioral abnormalities, clinical symptomatology, or signs of toxicity) must be specified when the administration of tumor cells, biologics, infectious agents, radiation, or toxic chemicals are expected to cause significant symptomatology or are potentially lethal. List the criteria to be used to determine when euthanasia is to be performed. Death as an endpoint must always be scientifically justified.
• **Veterinary care** *(Indicate desired plan of action in case of animal illness, e.g., initiate treatment, call investigator prior to initiating treatment, euthanize).*

G. **Surgery**

If proposed, complete the following: *(Use additional sheets if necessary.)*

1. **Identify and describe the surgical procedure(s) to be performed.** Include preoperative procedures (e.g., fasting, analgesic loading), and monitoring and supportive care during surgery. Include the aseptic methods to be utilized.

2. **Who will perform surgery and what are their qualifications and/or experience?**

3. **Where will surgery be performed and postoperative care provided (building and rooms)?**

4. **If survival surgery, describe postoperative care required, frequency of observation, and identify the responsible individual(s).** Include detection and management of postoperative complications during work hours, after hours, weekends, and holidays.
5. If non-survival surgery, describe how humane euthanasia is enacted and how death is determined.

6. Are paralytic agents used during surgery? If yes, please describe how ventilation will be maintained and how pain will be assessed.

7. Has major survival surgery been performed on any animal prior to being placed on this study? [Major survival surgery penetrates and exposes a body cavity or produces substantial impairment of physical or physiologic functions (such as laparotomy, thoracotomy, crainotomy, joint replacement, or limb amputation).]

   □ YES   □ NO

   If yes, please explain:

8. Will more than one major survival surgery be performed on an animal while on this study?

   □ YES   □ NO

   If yes, please justify:
H. PAIN OR DISTRESS CLASSIFICATION AND CONSIDERATION OF ALTERNATIVES

1. Pain or Distress Classification

<table>
<thead>
<tr>
<th>Species (common name)</th>
<th>USDA Classification* B, C, D or E</th>
<th>Number of animals used each year</th>
<th>3 year total number of animals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Year 1</td>
<td>Year 2</td>
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Total number of animals (should equal total from Section B):

**USDA CLASSIFICATIONS AND EXAMPLES**

**Classification B**: Animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery, but not yet used for such purposes.

Examples:
- Breeding colonies of any animal species (USDA does not require listing of rats, mice, birds) that are held in legal sized caging and handled in accordance with the *Guide* and other applicable regulations. Breeding colony includes parents and offspring.
- Newly acquired animals that are held in proper caging and handled in accordance with applicable regulations.
- Animals held under proper captive conditions or wild animals that are being observed.

**Classification C**: Animals upon which teaching, research, experiments, or tests will be conducted involving no pain, distress, or use of pain-relieving drugs.

Examples:
- Procedures performed correctly by trained personnel such as the administration of electrolytes/fluids, administration of oral medication, blood collection from a common peripheral vein per standard veterinary practice (dog cephalic, cat jugular) or catheterization of same, standard radiography, parenteral injections of non-irritating substances.
- Euthanasia performed in accordance with the recommendations of the most recent AVMA Panel on Euthanasia, utilizing procedures that produce rapid unconsciousness and subsequent humane death.
- Manual restraint that is no longer than would be required for a simple exam; short period of chair restraint for an adapted nonhuman primate.

**Classification D**: Animals upon which experiments, teaching, research, surgery, or tests will be conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs will be used.
Examples:

- **Surgical procedures conducted by trained personnel in accordance with standard veterinary practice such as biopsies, gonadectomy, exposure of blood vessels, chronic catheter implantation, laparotomy, or laparoscopy.**
- **Blood collection by more invasive routes such as intracardiac or periorbital collection from species without a true orbital sinus such as rats and guinea pigs.**
- **Administration of drugs, chemicals, toxins, or organisms that would be expected to produce pain or distress but which will be alleviated by analgesics.**

**Classification E:** Animals upon which teaching, experiments, research, surgery, or tests will be conducted involving accompanying pain or distress to the animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs will adversely affect the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.

Examples:

- **Procedures producing pain or distress unrelieved by analgesics such as toxicity studies, microbial virulence testing, radiation sickness, and research on stress, shock, or pain.**
- **Surgical and postsurgical sequella from invasion of body cavities, orthopedic procedures, dentistry or other hard or soft tissue damage that produces unrelieved pain or distress.**
- **Negative conditioning via electric shocks that would cause pain in humans.**
- **Chairing of nonhuman primates not conditioned to the procedure for the time period used.**

**NOTE REGARDING CLASSIFICATION E:** An explanation of the procedures producing pain or distress in these animals and the justification for not using appropriate anesthetic, analgesic, or tranquilizing drugs must be provided on the report included as an Appendix. This information is required to be reported to the USDA, will be available from USDA under the Freedom of Information Act, and may be publicly available through the Internet via USDA’s website.

2. **Consideration of Alternatives**

If any procedures fall into USDA’s Classification D or E, causing more than momentary or slight pain or distress to the animals, describe your consideration of alternatives and your determination that alternatives are not available. Delineate the methods and sources used in the search. Database references must include databases searched, the date of the search, period covered, and the keywords used. Alternatives include methods that (1) refine existing tests by minimizing animal distress, (2) reduce the number of animals necessary for an experiment, or (3) replace whole-animal use with in vitro or other tests. When ascites production is used to produce antibodies, justification needs to be given as to why in vitro systems cannot be used. Note that you must certify in Section Q.5. that no valid alternative was identified to any described procedures which may cause more than momentary pain or distress, whether relieved or not.
I. ANESTHESIA, ANALGESIA, TRANQUILIZATION, OTHER AGENTS

For animals indicated in Section H.1., Classification D, specify the anesthetics, analgesics, sedatives, or tranquilizers that are to be used. Include the name of the agent(s), the dosage, route and schedule of administration. If information is provided in Section G. above, please cross-reference. Describe tracking and security of controlled drugs (per Drug Enforcement Agency requirements).

J. METHOD OF EUTHANASIA OR DISPOSITION OF ANIMALS AT END OF STUDY

Indicate the proposed method of euthanasia. If a chemical agent is used, specify the dosage and route of administration. If the method(s) of euthanasia include those not recommended by the AVMA Panel Report on Euthanasia (e.g., decapitation or cervical dislocation without anesthesia), provide scientific justification why such methods must be used. Indicate the method of carcass disposal if not described in Section K. below.

K. HAZARDOUS AGENTS

Use of hazardous agents requires the approval of the institutional Biosafety Committee and Risk Management and Safety. Attach documentation of approval for the use of recombinant DNA or potential human pathogens.

<table>
<thead>
<tr>
<th>Hazardous Agent</th>
<th>Yes</th>
<th>No</th>
<th>Agent</th>
<th>Date of Biosafety Approval</th>
<th>Tracking #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radionuclides</td>
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<tr>
<td>Biological Agents</td>
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<tr>
<td>Hazardous Chemicals or Drugs</td>
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<tr>
<td>Recombinant DNA</td>
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</table>

Study Conducted at Animal Biosafety Level: [ ] 1 [ ] 2 [ ] 3 [ ] 4
Describe the practices and procedures required for the safe handling and disposal of contaminated animals and material associated with this study. Also describe methods for removal of radioactive waste and, if applicable, the monitoring of radioactivity.

Additional safety considerations:

L. BIOLOGICAL MATERIAL/ANIMAL PRODUCTS FOR USE IN ANIMALS
   (e.g., cell lines, antiserum, etc.)

1. Specify Material:

2. Source:

   Material Sterile or Attenuated:  □ YES  □ NO

   If derived from rodents, has the material been MAP/RAP/HAP tested? [MAP - Mouse Antibody Production; RAP - Rat Antibody Production; HAP - Hamster Antibody Production]

   □ YES (Attach copy of results)  □ NO

3. I certify that the MAP/RAP/HAP tested materials to be used have not been passed through rodent species outside of the animal facility in question and/or the material is derived from the original MAP tested sample. To the best of my knowledge the material remains uncontaminated with rodent pathogens.

   □  Initials of Principal Investigator.
M. TRANSGENIC AND KNOCKOUT ANIMALS

Describe any phenotypic consequences of the genetic manipulations to the animals. Describe any special care or monitoring that the animals will require.

N. EXEMPTIONS FROM ENVIRONMENTAL ENHANCEMENT FOR NONHUMAN PRIMATES OR EXERCISE FOR DOGS

1. For non-human primates, are you seeking an exemption for scientific reasons from the institution's plan for environment enhancement?  □ YES  □ NO

   If yes, provide the basis of the request.

2. For dogs, are you seeking an exemption for scientific reasons from the institution's plan to provide dogs with the opportunity for exercise?  □ YES  □ NO

   If yes, provide the basis of the request.

O. FIELD STUDIES

If animals in the wild will be used, describe how they will be observed, any interactions with the animals, whether the animals will be disturbed or affected, and any special procedures anticipated. Indicate if Federal permits are required and whether they have been obtained.
P. SPECIAL CONCERNS OR REQUIREMENTS OF THE STUDY

List any special housing, equipment, animal care (e.g., special caging, water, feed, or waste disposal, environmental enhancement, etc.)

List any attachments here:
1. I certify that I have participated in the institutionally required investigator training and have passed the animal care and use certification examination

   Year:                Location:

2. I certify that I have determined that the research proposed herein is not unnecessarily duplicative of previously reported research.

3. I certify that all individuals working on this proposal who are at risk are participating in the Institution's Occupational Health and Safety Program.

4. I certify that the individuals listed in Section A. are authorized to conduct procedures involving animals under this proposal, have attended the institutionally required investigator training course, and received training in: the biology, handling, and care of this species; aseptic surgical methods and techniques (if necessary); the concept, availability, and use of research or testing methods that limit the use of animals or minimize distress; the proper use of anesthetics, analgesics, and tranquilizers (if necessary); and procedures for reporting animal welfare concerns.

5. For all USDA Classification D and E proposals (see section H.1.): I certify that I have reviewed the pertinent scientific literature and the sources and/or databases as noted in Section H.2. and have found no valid alternative to any procedures described herein which may cause more than momentary pain or distress, whether it is relieved or not.

6. I certify that I will obtain approval from the IACUC before initiating any significant changes in this study.

7. I certify that I will notify the IACUC regarding any unexpected study results that impact the animals. Any unanticipated pain or distress, morbidity or mortality will be reported to the attending Veterinarian and the IACUC.

8. I certify that I am familiar with and will comply with all pertinent institutional, state, and federal rules and policies.

Principal Investigator:

<table>
<thead>
<tr>
<th>Name:</th>
<th>Signature:</th>
<th>Date:</th>
</tr>
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<tbody>
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<td>/       /20</td>
</tr>
</tbody>
</table>
Q. CONCURRENCES

PROPOSAL NUMBER______________ (for ORSP use)

Risk Management and Safety Office and/or Biosafety Committee Certification of Review and Concurrence: (Required of all studies utilizing hazardous agents.)

Name: Lance Fredrick  Signature:  Date:  /  /20

Comments:

Facility Manager (Department Chair) certification of resource capability in the indicated facility to support the proposed study:

☐ Upham

Name:  Signature:  Date:  /  /20

Comments:

Attending Veterinarian certification of review and consultation on proper use of anesthetics and pain relieving medications for any painful procedures:

Name: Janet Gildner  Signature:  Date:  /  /20

Comments:
S. FINAL APPROVAL:

Certification of review and approval by the Institutional Animal Care and Use Committee Chair or designee:

☐ Expedited   ☐ Full

Name: Anneke Lisberg   Signature:   Date:   /   /20

Comments:
APPENDIX H

CERTIFICATION EXAMINATION
Required Animal Care and Use Training

All IACUC members, campus faculty/staff and students who work with animals are required to complete CITI Program animal care training prior to beginning animal care or research.

The CITI Program Animal Care and Use (ACU) series covers general principles of the ethical care and use of animals in research, training, and testing. It is designed to meet U.S. Department of Agriculture (USDA) and Office of Laboratory Animal Welfare (OLAW) requirements for basic training in the humane care and use of animals.

Required training includes a section on Working with the IACUC and one or more animal-specific courses depending on the species with which you will be working.

The CITI training certification is valid for four years at which time a refresher course will be required.

CITI Program access information and instructions for registrations are included on the following pages.
Select the link from the ORSP website, or Login to www.citiprogram.org

If you have not previously used the CITI Program Website, please select: Register (Create an Account) or login under your current login information.

Search for: University of Wisconsin–Whitewater

Follow the site instructions to enter your personal and login information

*Please be sure to enter your uww.edu email address as your ‘institutional’ email address.

During setup, you will be asked if you are interested in the option of receiving Continuing Education Unit (CEU) Credit for completed CITI Program Courses. You may select ‘YES’ for this option, however you will be responsible for any fees associated with CEU credit (purchase options are offered at the end of course completion). If you select ‘No’ at this time, you can change this setting at a later date.

On the final registration page (#7). You will be asked a series of questions to determine the educational modules required by UW-Whitewater to conduct Human or Animal Research.

HUMAN RESEARCH:
Typically for human research, you will require the “Social, Behavioral, & Educational (SBE) Sciences – All Researchers”. Additional/alternative modules are available for Biomedical Research.

ANIMAL RESEARCH:
If you are a staff/faculty member or student performing animal research, you will require the “Working with the IACUC Course” and we encourage the “Minimizing Pain and Distress” module as applicable to your research. You must also choose one or more of the “Species appropriate” modules depending upon the animals in your research. Alternative modules are available for those with varying roles in the administration of animal research on campus.

If you have been awarded a federal grant, additional modules or one-on-one training may be required. Please review the grant requirements or contact ORSP to help determine the educational requirements for grant compliance. The first course for Responsible Conduct of Research (RCR) is available on the CITI Program site at any time.
Upon completion of the educational modules and a passing score of 80% on the final quiz, a report will be sent to the ORSP Compliance Manager notifying them of your results. Successful completion of the required modules must be available and will be verified, by the Compliance Manager prior to IRB or IACUC protocol approval. Any training for grant compliance must be completed prior to award acceptance. Training certification expires 4 years from the date of successful quiz completion and renewal will be required at that time.

You may login to your CITI account at any time to review and print your information, or to choose additional training modules as required. Upon transfer to another institution that uses the CITI program, you may also change your affiliation. Please contact Carol Katch, ORSP Compliance Manager (katchc@uww.edu) (x5288) with any questions regarding the CITI Program.
APPENDIX I

ANIMAL HANDLERS HEALTH QUESTIONNAIRE
UNIVERSITY OF WISCONSIN-WHITEWATER
ANIMAL HANDLER’S HEALTH QUESTIONNAIRE
(Please print legibly or type)

The Institutional Animal Care and Use Committee requests completion of this form upon employment in a UW-Whitewater Animal Research Facility. All efforts will be made to safeguard your identity and responses to the questions below.

If you have any questions about this questionnaire, please contact Anneke Lisberg, Chair of the Institutional Animal Care and Use Committee, 203 Upham Hall, University of Wisconsin-Whitewater, 800 West Main Street, Whitewater, Wisconsin 53190. Telephone: (262) 472-5138.

Questions related to this form, the Institutional Animal Care and Use Committee and/or animal use and care procedures should be directed to Carol Katch, Compliance Manager for Research and Sponsored Programs, 2245 Andersen Library, University of Wisconsin-Whitewater, 800 West Main Street, Whitewater, Wisconsin 53190, Telephone: (262) 472-5288, FAX: (262) 472-5214, Email: rsp-compliance@uww.edu

Name

Department

Campus Mailing Address

Campus Phone

Birth Date

Principal Investigator

Laboratory of Investigator/Employer

College/Division Where Employed:

☐ Graduate Studies  ☐ Letters and Sciences  ☐ Education  ☐ Other

Status (Check all that Apply):

☐ Faculty/Academic Staff  ☐ Undergraduate Hourly/Workstudy
☐ Graduate Hourly/Intern/Workstudy  ☐ Other

Please Check all Circumstances Which may Apply:

☐ Contact with vertebrate animals.
☐ Contact with animals tissue/fluids not treated with chemical preservatives.
☐ No direct animal contact, but working in same room with animals or their unpreserved tissues.

List Species Contacted:

Estimate Animal Contact in Hours per Week:
THE FOLLOWING QUESTIONS ARE REQUIRED AS PART OF THE CAMPUS RESPONSIBILITY TO COMPLY WITH:

THE ASSURANCE SUBMITTED TO THE FEDERAL GOVERNMENT

AND

POLICY OF THE STATE OF WISCONSIN

The health program for personnel who work in laboratory animal facilities or have frequent contact with animals is a tuberculosis test at the onset of employment as prescribed by state law. Students who may come in contact with animals are expected to have a complete medical examination upon matriculation including a test for tuberculosis. Student employees who have not had a test for tuberculosis in the last three years will be required to have a negative skin test at the time of employment.

Have you had a TB skin test?  □ YES date:___________  □ NO

**Contact the University Health and Counseling Service at (262) 472-1300 to arrange a skin test free of charge if needed**

Have you experienced asthma like symptoms, shortness of breath, coughing, wheezing while working with or around animals?  □ YES date:___________  □ NO

Please be informed that certain medical conditions (animal related allergies, chronic back injury, pregnancy, and immunosuppression) increase your risk of potential health problems when working with animals. Inform your supervisor if any of these conditions apply to you.

PLEASE RETURN COMPLETED FORM TO:

Office of Research and Sponsored Programs
University of Wisconsin-Whitewater
2245 Andersen Library, 800 West Main Street
Whitewater, Wisconsin 53190

TELEPHONE: (262) 472-5288   FAX: (262) 472-5214