UBC ANIMAL CARE COMMITTEE POLICY 013

Management and Maintenance of Rodent Breeding Colonies

Date Originally Approved: December 12, 2008
Date Revised: March 25 2017
Date Approved: March 27 2017

1. PURPOSE:

The purpose of this policy is to: 1) define the standards and responsibilities for management of rodent breeding colonies at The University of British Columbia (UBC), 2) ensure the best possible care and welfare of breeding rodents and their offspring, 3) ensure genetic stability is maintained within rodent breeding colonies, thereby limiting experimental variables, and 4) maximize the implementation of Reduction by encouraging efforts to minimize the production of surplus animals while meeting reasonable expectations for a ready supply of research animals to achieve the scientific objective.

2. SCOPE:

This policy applies to all breeding animals (adults and offspring) housed in The University of British Columbia animal facilities, as well as those facilities that reside at affiliated research institutes, centres and hospitals and that fall under the review of The University of British Columbia's Animal Care Committee ("UBC animal facilities").

3. DEFINITIONS:

Surplus animals bred in support of research: Animals that are not directly used for teaching, testing or research (e.g. animals of the wrong sex, genotype, age).

Archiving Methods: Methods used to archive genetic strains. These include cryopreservation of embryos, spermatozoa, oocytes, or ovarian tissue.

Breeding colony: Group of breeding animals used for the production of research animals that are not available commercially or require local production. The colony includes parents, offspring and replacement breeders.

Genetically engineered animal: Refers to any animal that has had a random or targeted change in its nuclear or mitochondrial DNA (addition, deletion or substitution of some part of the animal's genome) achieved through a deliberate human intervention (CCAC 3Rs Microsite). Genetically-engineered animals also include offspring that result from intercrossing unique genetic strains (e.g. Cre-lox, CRISPR-Cas, B6129F1).

Reduction: Methods which will minimize the number of animals used (CCAC 3Rs Microsite).

Refinement: Methods to minimize pain and distress and improve animal welfare (CCAC 3Rs Microsite).

UBC Clinical Veterinarian: Clinical veterinarian recognized by the UBC Animal Care Committee.

4. POLICY STATEMENTS:

1. Except to the extent that breeding is part of a research protocol's scientific objective, all Principal Investigators (PIs) are required to have a separate, current and approved Breeding protocol.
2. All strains must be listed on the protocol, including new strains generated from breeding two unique strains to each other (e.g. Cre/lox, CRISPR/Cas, B6129F1). The PI must justify in the protocol why these strains must be maintained as breeding colonies, especially if they are not being used on active research protocols.
3. All animals purchased or obtained in order to establish and/or maintain breeding colonies must be processed through UBC Animal Care Services unless otherwise approved.
4. Maximum age for breeders must not exceed the natural reproductive lifespan for the species and strain and should must be specified in the approved protocol. The age specified must be justified through breeding records for the strain.
5. The PI must designate a colony manager. This manager must be someone who has received specific training on managing rodent breeding colonies, and who will be the primary contact person for the PI's lab.
6. Prior to the ordering or breeding of animals, the PI or designate must ensure that space is available in their animal facility for the breeding of rodents.
7. Every effort must be made to limit generation of surplus animal(s) by maintaining good breeding records, avoiding genetic drift and responding to changes in research requirements in a timely manner.
8. Colony management must include keeping organized up-to-date records, including but not limited to: animal identification with proper nomenclature, reproductive performance, date of breeding, set up, birth and weaning, and breeders' birthdate.
9. During the derivation of new genetically engineered strain(s), vigilance is required for the detection of a phenotype(s) that could negatively impact the welfare of the animal(s). These must be documented, addressed and investigated as any other unexpected experimentally related condition (UBC ACC Policy 004, Animal Health and Welfare Concerns: Treatment and Humane Endpoints).
10. For animals with a phenotype(s) that may negatively impact welfare, specific colony monitoring must be implemented (UBC ACC Policy 017, Monitoring of Animals Used for Research, Teaching & Testing).
11. Recurrent health and welfare problems within breeding colonies must be brought to the attention of a UBC Clinical Veterinarian.

5. RESPONSIBILITY:

1. It is the responsibility of the PI named on the Breeding protocol to designate personnel responsible for maintenance of their rodent colonies, and this must be indicated within the protocol. The PI must ensure that all persons listed on the Breeding protocol who are actively working with animals are competent to ensure proper maintenance of the colony they are working with, including the appropriate training and knowledge of the species and strain(s) in their colony.
2. The ACC is responsible for reviewing the protocol(s) and to facilitate the utilization of surplus animals across the greater Animal Care and Use Program at UBC.

6. REFERENCE

1. CCAC 3Rs Microsite http://3rs.ccac.ca/en/about
2. UBC ACC Policies https://animalcare.ubc.ca/animal-care-committee/policies-and-guidelines
    a. UBC ACC Policy 004 Animal Health and Welfare Concerns: Treatment and Humane Endpoints
    b. UBC ACC Policy 017 Monitoring of Animals Used for Research, Teaching & Testing

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