

Background

Laboratory animal ordering through the Animal Resources Centre order desk is linked to the database used to manage animal use protocols in University Animal Care Committee (UACC). Each strain of a laboratory animal used in a protocol must be listed as to strain and the approved number to be used in the next year. If a researcher plans to use a different strain a Protocol Modification Form must be submitted for review and approval before the new strain can be ordered. This may also occur when more than one strain is approved (with an approved number) and the requirement for one strain changes but the total number of animals approved in the protocol does not. For some active research programs using many different strains of a laboratory animal species (mice for example) requests to modify the protocol to add another strain or change the approved number of a given strain, may need to be submitted often.

The requirement to complete and submit a Protocol Modification Form for each change in animal strain or approved numbers for that strain, consumes a significant amount of time for everyone involved, often without a perceivable 'benefit' in terms of animal welfare or animal usage. Often this does not change the total numbers of animals approved in a protocol, or the procedures being performed on the animals, and does not change how these mice are housed and managed. Protocols for many other species do not have the same requirements. A feeding trial protocol with beef cattle will not specify the animals be Angus or Charolais, for example.

It is thus proposed that laboratory animals and other animals used in research or teaching will be categorized into groups that reflect whether or not they are genetically modified, their health status, and their housing and management needs. Then within a group, changes in strains or assigning different number to be used could be done by a simple communication to the UACC or ARC office, as long as the total number of animals approved on the protocol was not increased. Genetically modified animals (e.g., transgenic, knock-out) should be grouped separately to allow for differentiating these animals from non-genetically modified for purposes of accurate reporting of annual animal usage to the Canadian Council on Animal Care (CCAC).

Procedures

Categorizing Animal Strains

Group 1: Non-genetically modified animals with standard housing and management requirements.

For mice and other laboratory rodents this covers only outbred / inbred strains. These rodents are normal healthy strains with known backgrounds, are immunologically competent and do not

have special housing or management requirements. Examples of mice would be Balb/C, Swiss CD1, C57 Bl. Examples of rats would be Sprague-Dawley, Wistar and Long Evans.

Proposal: That any listed strain in this group can be interchanged / substituted for another strain in this group, without requiring submission of a Protocol Modification Form.

Group 2: Non-genetically modified animals with special housing, handling and surveillance requirements.

For mice and other laboratory rodents, this covers only outbred / inbred strains. These rodents may be immune compromised or immune deficient, special needs rodents or rodents prone to develop life threatening conditions. Examples may be nude mice or SCID mice.

Proposal: That each proposed change in animal usage in this group requires the submission of a Protocol Modification Form for review and approval before the new animals can be ordered.

Group 3: Genetically modified animals with standard housing and management requirements.

Most of the genetically modified rodents are known to be normal healthy strains, with no unusual health or welfare problems. There is usually good phenotype (known health or welfare problems) information from the commercial suppliers like Jackson Labs, Taconic or CRC for all the strains of animals they sell.

Proposal: That any listed strain in this group can be interchanged / substituted for another strain in this group, without requiring submission of a Protocol Modification Form.

Group 4: Genetically modified animals with specific housing, handling and surveillance requirements.

For mice or rats, strains in this group typically have elevated housing and management requirements. They may have some alteration to immune function that requires their being housed under filter bonnets or in micro isolators and special care taken for manipulations or exposure to other mice. An example would be knockout mice with genes of innate immunity targeted. For instance, mice with developing Alzheimers, mice with breast cancer that develops around 14-16 weeks old, etc.

Proposal: That each proposed change in animal usage in this group requires the submission of a Protocol Modification Form for review and approval before the new animals can be ordered.

Group 5: New genetically modified animals for which the phenotype is not known.

New genetically modified strains requested for which there were no phenotype history yet, might develop health or animal welfare problems later on (e.g. severe arthritis, cancer), and

would require additional monitoring, care and husbandry experience for several generations before their phenotype were defined. Once the phenotype were defined, these strains would likely be moved into one of the other groups above.

Proposal: That each proposed new animal usage in this group requires the submission of a Protocol Modification Form for review and approval before the new animals can be ordered.

Exchange of Strains on Animal Use Protocols

When protocols are submitted the proposed strains and number of animals to be used are listed.

Any request from a principal investigator to change a strain or numbers of animals within Group 1 or within Group 3 (above) can be processed in the Research Ethics Office without a Protocol Modification Form. This decision will be documented in the animal use protocol file, the UACC database will be updated and the principal investigator, facility manager and the Animal Resources Centre order desk will be informed of the change.

A Protocol Modification Form will always be required if the total number of animals requested exceeds the total currently listed / approved on the protocol.

Addition of New Strains on Animal Use Protocols

Any request from a principal investigator to add a new strain that is within Group 1 or within Group 3 (above) can be processed in the Research Services and Ethics Office without a Protocol Modification Form. The principal investigator will need to identify which strain currently on the protocol will be reduced in number to ensure that the total number of animals approved on the protocol is not exceeded. This decision will be documented in the animal use protocol file, the UACC database will be updated and the principal investigator, facility manager and the Animal Resources Centre order desk will be informed of the change.

A Protocol Modification Form will be required if a new strain that is within Groups 2, 4 or 5 (above) is requested to be added to a protocol.

If by the addition of a new strain, the number of animals requested will exceed that which is currently listed / approved on the protocol, then a Protocol Modification Form will be required.

The University Veterinarian or UACC Clinical Veterinarian will determine the appropriate category to which any new strain will be assigned, if the animal is not already included in the UACC database.

Approved by the UACC, 21 October 2009