Vertebrate Animals

(Completing this section carefully and fully will greatly facilitate not only grant review but will also expedite IACUC Protocol construction and approval)

1. Provide a detailed description of the proposed use of the animals in the work outlined in the Research Design and Methods section. Identify the species, strains, ages, sex, and numbers of animals to be used in the proposed work.

   <1 line> Begin with Specific Aim 1. List the First Experiment and its Title.

   <2-3 lines> Summarize the intent of the experiment in a few lines explaining what animal models (species (mouse, rat, pig etc.), transgenic, KO, Cre, or Floxed mice that will be used to accomplish the study. List the strain/background of the animals (C57BL6, BALBc, etc.).

   <1-2 lines> List the sex of the animals to be used with a brief explanation for this selection.

   <1-2 lines> List all the ages of the animals to be used with a brief explanation for this selection.

   <1/2 page> List the number of animals per group to be used in the experiment (and explain the basis (e.g. refer to the location of a Power Test or other means of determining this number). List the experimental groups to be used including all control groups and calculate the total number of animals for this experiment. Eg.

1) WT C57BL6
2) TCG/J3 KO
3) TCG/J3 KO + A632.1

   Experiment 1: 3 groups X 10 mice/group = 30 mice.

   < As Above> Repeat the steps above for ALL additional Experiments. Talley up all the mice from each experiment and provide a total.

   < As Above> Repeat the steps above for ALL additional Specific Aims. Talley up all the mice from each Specific Aim and provide a total.

2. Justify the use of animals, the choice of species, and the numbers to be used. If animals are in short supply, costly, or to be used in large numbers, provide an additional rationale for their selection and numbers.

   <1 paragraph> Explain why animals are necessary for these studies. Explain briefly what in vitro studies have already been conducted that led to the hypothesis being tested and why it is now important to translate the findings into a more complex in vivo model.
Explain why the chosen species (eg. Mouse) is the best choice for these studies. What unique properties make it a suitable model? Are there KO or transgenic models that allow you to test a specific hypothesis in a definitive way? Are there unique reagents such as antibodies or ELISA kits for the species of choice that make it advantageous for your studies? Is this an accepted animal model of a human disease that is being exploited (justify with references). Is this the lowest species on the evolutionally scale that can used?

Justify the group size numbers to be used. If at all possible provide a Power test to justify your group size selection using your preliminary data or published data from a study using similar endpoints or technologies. Explain how you conducted the Power test, including information on the SD used, the mean difference that you are Powered to detect, the Power selected (>0.95 or 0.90 are typical but justify if you select less Power). If a Power test cannot be conducted then at least cite published literature to justify the group size chosen.

If animals are in short supply, costly or to be used in large numbers, provide an additional rationale for their selection and numbers.

3. Provide information on the veterinary care of the animals involved.

Emory DAR provides detailed information for completing this section (http://www.dar.emory.edu/BUSINESS/grant_prep.php).

4. Describe the procedures for ensuring that discomfort, distress, pain, and injury will be limited to that which is unavoidable in the conduct of scientifically sound research. Describe the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices, where appropriate, to minimize discomfort, distress, pain, and injury.

Explain how anesthesia will be used in surgical or other stressful situations to relieve pain and stress to animals. List the procedures that would require anesthesia. List the specific anesthetic, dosage, frequency and route (e.g. IP, SQ, Oral etc.).

Explain how analgesia will be used to relieve pain following surgical procedures or in other manipulation’s that may cause more than momentary pain in animals. List the procedures that would require analgesia. List the specific analgesic, the dosage, frequency and route (e.g. IP, SQ, Oral etc.).

5. Describe any method of euthanasia to be used and the reasons for its selection. State whether this method is consistent with the recommendations of the Panel on Euthanasia of the American Veterinary Medical Association. If not, present a justification for not following the recommendations.

Acceptable methods of Euthanasia are listed for different specific on the Emory DAR website: http://www.dar.emory.edu/VETCARE/euthanasia_methods.php