Justifying the Species

Justifications for using a particular species may include:

1. The presence of previous work in the biomedical literature that validates the use of a particular species in an animal model of a human disease.
2. The existence of a large body of previous laboratory data that would have to be repeated if another species was used instead.
3. Characteristics of the species that render it uniquely suited to the proposed research.
4. Size, availability and cost.
5. Availability of reagents or research tools unique to that species.

Cost savings alone is not an adequate justification for using a particular species! The justification should be based on sound scientific reasoning.

Justifying the Number of Animals Requested

You will need to determine your need for a certain number of animals, and justify why you need that number. The IACUC realizes that it can be difficult to provide such information in advance, but the law\(^1\) requires them to review the number of animals to be used.

Some Important Points

According to the Guide\(^2\), a statistical analysis\(^3\) should be used to justify animal numbers whenever possible.

Commonly a **power analysis is the most appropriate tool for justifying group sizes.** Surprisingly, you might even find out that you need to ask for more animals per groups than you thought would be necessary.

It is acceptable to ask for animals that will be used to perfect surgical or other techniques prior to initiating planned experiments. This is preferable to beginning a large experiment that will experience technical problems that might cause pain or distress to the animals.

**Studies on cadavers from other approved protocols in advance of any procedure on a live animal are strongly encouraged.** By doing this, techniques can be perfected as much as possible before any live animals are used.

\(^1\)From the USDA Animal Welfare Act regulations and standards, Section 2.31-

“(e) A proposal to conduct an activity involving animals, or to make a significant change in an ongoing activity involving animals, must include:

1. Identification of the species and the approximate number of animals to be used;
2. A rationale for involving animals, and for the appropriateness of the species and the numbers of animals to be used;” [http://www.access.gpo.gov/nara/cfr/waisidx/9cfr2.html](http://www.access.gpo.gov/nara/cfr/waisidx/9cfr2.html)

From the US Governmental Principles For the Utilization And Care of Vertebrate Animals Used in Testing, Research and Training:

“III. The animals selected for a procedure should be of an appropriate species and the quality and the minimum number required to obtain valid results. Methods such as mathematical models, computer simulations, and in vitro biological systems should be considered.” [http://grants.nih.gov/grants/olaw/references/phspol.htm#principle](http://grants.nih.gov/grants/olaw/references/phspol.htm#principle)

\(^2\)From the Guide for the Care and Use of Laboratory Animals

\(^3\)From the Guide, page 10-

“The following topics should be considered in the preparation and review of animal care and use protocols: ...Justification of the species and number of animals requested. **Whenever possible, the number of animals requested should be justified statistically.**” [http://www.nap.edu/readingroom/books/labrats/](http://www.nap.edu/readingroom/books/labrats/)