# Project summary/abstract

[start text here]

# Project Narrative

[start text here]

# Specific Aims

[start text here]

# Research Strategy

## Significance

[start text here]

## Innovation

[start text here]

## Approach

### Overall Strategy and Rationale

[start text here]

### Preliminary Studies

[start text here]

### Specific Aim 1. [restatement of specific aim]

**Rationale/Hypothesis.** [start text here]

**Experimental Design.** [start text here]

**Methodology.** [start text here]

**Analyses.** [start text here]

**Expected Results and Benchmarks for Success.** [start text here]

**Potential Problems and Alternative Strategies.** [start text here]

### Specific Aim 2. [restatement of specific aim]

**Rationale/Hypothesis.** [start text here]

**Experimental Design.** [start text here]

**Methodology.** [start text here]

**Analyses.** [start text here]

**Expected Results and Benchmarks for Success.** [start text here]

**Potential Problems and Alternative Strategies.** [start text here]

### Project Timeline

[start text here]

# Bibliography and References Cited

[start text here]

# Vertebrate Animals

If vertebrate animals are involved in the project, address each of the five points below. This section should be a concise, complete description of the animals and proposed procedures. While additional details may be included in the Research Strategy, the responses to the five required points below must be cohesive and include sufficient detail to allow evaluation by peer reviewers and NIH staff. If all or part of the proposed research involving vertebrate animals will take place at alternate sites (such as project/performance or collaborating site(s)), identify those sites and describe the activities at those locations. Although no specific page limitation applies to this section of the application, be succinct. Failure to address the following five points will result in the application being designated as incomplete and will be grounds for the PHS to defer the application from the peer review round. Alternatively, the application's impact/priority score may be negatively affected. Do not use the vertebrate animal section to circumvent the page limits of the Research Strategy.

## Use of Animals

[start text here]

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

## Justification

[start text here]

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.

## Veterinary Care

[start text here]

Provide information on the veterinary care of the animals involved.

## Procedures

[start text here]

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.

## Euthanasia

[start text here]

Describe any method of euthanasia to be used and the reason(s) for its selection. State whether this method is consistent with the recommendations of the American Veterinary Medical Association (AVMA) Guidelines on Euthanasia. If not, include a scientific justification for not following the recommendations.

# Letters of Support

[start text here]

Attach all appropriate letters of support, including any letters necessary to demonstrate the support of consortium participants and collaborators such as Senior/Key Personnel and Other Significant Contributors included in the grant application. Letters are not required for personnel (such as research assistants) not contributing in a substantive, measurable way to the scientific development or execution of the project. For consultants, letters should include rate/charge for consulting services.

# Resource Sharing Plan(s)

## Data Sharing Plan

[start text here]

Investigators seeking $500,000 or more in direct costs (exclusive of consortium F&A) in any year are expected to include a brief 1-paragraph description of how final research data will be shared, or explain why data-sharing is not possible. Specific FOAs may require that all applications include this information regardless of the dollar level. Applicants are encouraged to read the specific opportunity carefully and discuss data-sharing plans with their program contact at the time they negotiate an agreement with the Institute/Center (IC) staff to accept assignment of their application. See [Data-Sharing Policy](http://grants.nih.gov/grants/policy/data_sharing/) or <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-03-032.html>.

## Sharing Model Organisms

[start text here]

Regardless of the amount requested, all applications where the development of model organisms is anticipated are expected to include a description of a specific plan for sharing and distributing unique model organisms or state appropriate reasons why such sharing is restricted or not possible. See [Sharing Model Organisms Policy](http://grants.nih.gov/grants/policy/model_organism/), and [NIH Guide NOT-OD-04-042](http://grants.nih.gov/grants/guide/notice-files/NOT-OD-04-042.html).

## Genome-Wide Association Studies (GWAS)

[start text here]

Regardless of the amount requested, applicants seeking funding for a genome-wide association study are expected to provide a plan for submission of GWAS data to the NIH-designated GWAS data repository, or provide an appropriate explanation why submission to the repository is not possible. GWAS is defined as any study of genetic variation across the entire genome that is designed to identify genetic associations with observable traits (such as blood pressure or weight) or the presence or absence of a disease or condition. For further information see Policy for Sharing of Data Obtained in NIH Supported or Conducted Genome-Wide Association Studies, [NIH Guide NOT-OD-07-088](http://www.nih.gov/grants/guide/notice-files/NOT-OD-07-088.html), and <http://grants.nih.gov/grants/gwas/>.