

How to write grant application (A personal experience)

Chung Lee, Ph.D.
Department of pathology & Laboratory Medicine
Department of Urology



UC Irvine Urology

Outline-How to write grant application

Key components

Research plan

Additional considerations

Key Components

Title of the proposal: critical to select the most relevant word as the title.

Summary: The funding agencies will base on the content of the summary to select appropriate reviewers.

Specific Aims: Each specific aim should be written to address a special aspect of the proposal.

Body of the proposal: Varies with type of proposal. Usually, contain topics like background, preliminary data, significance, key investigators, rationale, proposed approaches or experiments, expected results, pitfalls, and alternative approaches.



Body of Proposal

Background: Describe the current state of knowledge that is available in the literature. In the first paragraph, describe the goals of proposal.

Preliminary data: Cite previous relevant research data that have not been published.

Significance and rational: Describe how and what this study can help a specific aspect of human health. Research should be hypothesis driven.

Key investigators: Investigators must cover expertise needed for this proposal. One or two can serve as principal investigator(s).

Proposed approaches or experiments: Describe details of each study, including statistical analysis. Methodology must be thorough unless published. Describe the sequence of attack.

Expected results, pitfalls, and alternative approaches: Describe the knowledge that will be obtained from the study. And, describe if there are other ways to tackle the problem.

Other Components

Resources: In this section you will describe available resources needed in order to conduct the proposed study.

References: It is important to cite all relevant references to support your proposal.

Budgets and justifications: Usually, there is a cap on budget and timeline on every proposal. It is important to follow the instruction of the funding agency.

Appendices: There is no page limitation for appendices. Detailed preliminary study can be included in this section.

Letters of support: For every investigator, it is important to include a letter of support to indicate that all investigators know their role and their contributions to the proposal.

Addition considerations

Science as well as art: Any research proposal is a scientific endeavor. It must contain solid science. However, mere science does not necessarily guarantee funding. One must incorporate art of writing to generate enthusiasm from the reviewers.

Writing grant application is a psychological warfare: The best example is two authors writing a novel on the same subject. One author writes a good novel but not exciting; while the other writes on the same subject and make it exciting to read.

All reviewers are highly critical: Reviewers who are assigned to review your grant are all experts in the subject matter of the proposal. They would know if the proposal represents the state-of-the-art of the subject. There is no short cut. The way you write can have an impact on how the reviewers will react.

Must convey confidence but not cocky. Confidence and cocky are two sides of a same coin. The writer has the control as to how the proposal is presented. This is the opportunity to demonstrate that the writer is knowledgeable, humble, and confident. On the other hand, if the proposal is written in an overly confident manner, it may alienate the reviewers, and it may not get funded.

You need to turn their critical attitude to strong agreement with your view. Usually, there are three reviewers assigned to review your proposal. You must convince all three reviewers to support your proposal. If one of the reviewers does not like your proposal, it will not be funded.

The writing must reflect honesty and sincerity: Finally, most reviewers probably know you from the literature and from society meetings. You must demonstrate honesty and sincerity at all times.

Conclusion

- **The objective of writing grant application is to obtain funding for your research.**
- **The funding agency can be government, private foundation, or a corporation.**
- **A good research proposal must contain solid science as well as inspirational writing.**
- **Most research proposals, if not all, are hypothesis driven.**
- **Good luck and thank you**