

Writing a grant

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Preparation: Anticipate reviewers concerns and questions--GENERAL

- What is the central hypothesis? **Validity, Clarity**
- Is the question important and novel? **Significance: Is this an important problem or does it address a critical barrier to progress?**
- Is the question interesting? **Innovation: Biomedical/clinical relevance/new concepts or practice paradigm shifts**
- How will the findings advance the field? **Impact: Likelihood the results will exert a sustained influence within this area**
- Are the specific aims logically arranged and matched to the approach? **Organization and flow**

More nuanced questions reviewers will ask

- Does the applicant have strong **mentorship** in place?
- What is the applicant's **productivity** and **past performance**?
- Is there documented evidence for **institutional commitment**?
- Is there a plan with time lines for **training and career development**?
- Are the studies **feasible** within the **time frame** proposed?
- If completed, will these studies lead to an **independent trajectory**?

OTHER APPROACH TIPS

Formatting

- Do not overcrowd pages.
- Observe type size limitations (6 lines/inch, 15 characters/inch).
- Observe margins (1/2 inch) and font requirements.
- Attractive layout.
- Do not squeeze into the allotted space (avoid dense text).
- Proposal should easily convey your ideas to a hurried reviewer*.

Key tips for figures

- Align figures adjacent to relevant text- don't make the reviewer search.
- Link figures and preliminary data to individual Specific Aims.
- Figures should be focal point for **strategy**, not just individual experiment
- Legends should summarize **what the data show** rather than repeat details of the experimental approaches used.
- Show reviewer you understand how to **interpret** your own data.

Introduction to revised applications

- 1 page allowed.
- Thank reviewers and summarize MAJOR changes *in response to previous critique*.
- Point by point response to MAJOR issues.
- Be selective. Emphasize POSITIVE changes and likely improvements to application
- Summarize NEW preliminary data
- Don't waste time discussing material you have eliminated from revision

Successful Grant

- 1. Hypothesis driven, solid foundation**
- 2. Mechanistic, insightful, feasible**
- 3. Clearly illustrated**
- 4. Logical flow**
- 5. Thoughtful contingency plans**
- 6. Centered on strong preliminary findings**

Top Ten Traps

10- traps to avoid:

10. Start writing less than two months prior to deadline. Poor planning shows. It takes time to write a grant.

9. Ask colleague or mentor to review proposal due Tuesday.

8. Rambling background review. It's a grant, not a review article. Don't try and educate the reviewer. Stay focused on your proposal.

7. Dangling anecdotes and oblique references to “interesting” findings.

6. Last minute supplemental data with new findings not directly related to your existing aims. Resist this impulse.

Top Ten Traps

10- traps to avoid:

5. **Overselling clinical relevance. If proposal only indirectly related to a disease, don't hand wave over public health impact.**
4. **Propose aims without preliminary data/feasibility. Asking for trouble. Doesn't need to be extensive, but something for all aims.**
3. **Propose too much in too many areas. Particularly for new investigators. Scope and focus are important disciplines.**
2. **Propose experiments for which key reagents (patient populations) have to be developed or are not yet in hand.**
1. **Aims built around microarray, proteomic or other profiling methodology for which no a priori hypothesis exists.**

Top Ten Habits of Highly Successful Investigators

10+ things to do to increase your chances of getting funded:

10. Plan ahead. Outline aims and sketch ideal preliminary data sets for supporting studies. Do this ~9 months in advance. Tough to do.

9. Complete key experiments to complement preliminary data sets.

8. At least 6 months prior to deadline, share your outline with mentor or senior colleague/collaborator. Takes courage.

7. Invest time in careful wording of introduction to revised application. Reviewers will pay close attention to your response to critique.

6. Refine specific aims in line with preliminary and published data.

Top Ten Habits (contd)

10+ things to do to increase your chances of getting funded:

- 5. Invest time in assembling figures and diagrams. Use color. Figures should be stand alone data sets. Pays big dividends.**
- 4. Connect preliminary findings to current aims. Goal: to fashion the proposal into an extension of your current work.**
- 3. Generate a series of paragraphs for background and significance. Goal: outline comprehensive overview of field, placing your aims in context when explaining innovation. The key is balance.**
- 2. Challenge yourself to prioritize. What are the five MOST important things you want to know about your area of work? Eliminate #4 and #5. Justify the top 3.**
- 1. Stay on task. Remember that less talented people have succeeded and that you will too.**