Grant Writing for Success

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2011 NIH Regional Seminars, Phoenix
“Anatomy” of Grant Process

- Program Staff
- Collaborators
- Researcher
- Idea
- Institution
- Funding Opportunity Announcement
- Grant Application (R01, R03, R21, K01, K08, etc.)
- National Advisory Council
- CSR Referral and Review
- Revision

Program Staff
$
Grant Writing for Success

Writing the Application:
- Start early
- Seek advice from colleagues
- Start with a good idea
- Talk to your NIH Program Official(s)
- Use the NIH webpage (www.nih.gov)
- Remember review criteria
- Follow instructions carefully
What Determines Which Grants Are Funded?

- Scientific merit
- Program considerations
- Availability of funds
Components of a Successful Grant Application

- Strong Idea
- Strong Science
- Strong Application
Principles of Success

- Understand the peer review process
- Understand the agency mission
  - *Every IC is different!*
- Secure collaborators (mentors) to complement your expertise and experience
  - Don’t compete … *collaborate!*
- Learn and practice the skills of writing applications for grant funds
Understanding the Mission

- Mission of each NIH IC is based and defined in law
  - Authorizations (create/continue an agency – periodic)
  - Appropriations ($ for the agency – annual)
- ICs establish specific research emphases
  - Legislative mission
  - Current state of science
- Use the Web to find out!
www.nih.gov
The Office of the Director (OD)
The Office of the Director is the central office at NIH for its 27 Institutes and Centers. The OD is responsible for setting policy for NIH and for planning, managing, and coordinating the programs and activities of all the NIH components. OD's program offices include the Office of AIDS Research and the Office of Research on Women's Health, among others. more >

NIH Institutes

National Cancer Institute (NCI) - Est. 1937
NCI leads a national effort to eliminate the suffering and death due to cancer. Through basic and clinical biomedical research and training, NCI conducts and supports research that will lead to a future in which we can prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases. more >

National Eye Institute (NEI) - Est. 1968
NEI conducts and supports research that helps prevent and treat eye diseases and other disorders of vision. This research leads to sight-saving treatments, reduces visual impairment and blindness, and improves the quality of life for people of all ages. NEI-supported research has advanced our knowledge of how the eye functions in health and disease. more >

National Heart, Lung, and Blood Institute (NHLBI) - Est. 1948
NHLBI provides leadership for a national program in diseases of the heart, blood vessels, lung, and blood; blood resources; and sleep disorders. Since October 1997, the NHLBI has also had administrative responsibility for the NIH Woman's Health Initiative. The Institute plans, conducts, fosters, and supports an integrated and coordinated program of basic research, clinical investigations and trials, observational studies, and demonstration and education projects. more >

National Human Genome Research Institute (NHGRI) - Est. 1989
NHGRI supports the NIH component of the Human Genome Project, a worldwide research effort designed to analyze the structure of human DNA and determine the location of the estimated 30,000 to...
Identifying NIH Initiatives

- Most NIH Institutes establish specific research Initiatives and Priorities

- Funding Opportunity Announcements (FOAs)
  - Must respond to a FOA via Grants.gov
NIH Guide for Grants and Contracts

- Official publication listing NIH funding opportunities and policy notices
  - Request for Applications (RFA)
  - Program Announcements (PA, PAR, PAS)
  - Request for Proposals (RFP)
  - Notices (NOT)
- Published weekly
NIH Guide for Grants and Contracts

Funding Opportunities and Notices

The NIH Guide for Grants and Contracts is the official publication for NIH medical and behavioral research grant policies, guidelines and funding opportunities. Definitions and More Information...

Search the NIH Guide for:
- Active RFAs (Requests for Applications)
- Active PAs (Program Announcements)
- Recent Notices (Released in Last 12 Months)

Inactive & Active Announcements (use Advanced Search)

With Announcement # or Keywords: (Optional)  Search  Advanced Search

Identify NIH Funded Grants

- See what Research Projects the NIH or any Institute has funded
- Find Potential Collaborators for your Project
Research Portfolio Online Reporting Tool (RePORT)


- A searchable database of federally supported biomedical research
- Access reports, data, analyses, expenditures, results of NIH supported research activities
- Identify, analyze IC research portfolios, funding patterns, funded investigators:
  - Identify areas with many or few funded projects
  - Identify NIH-funded investigators and their research
  - Identify potential mentors/collaborators
Application Development

Strategy

Act (Plan)

Think

Write
So WHY Plan?

You’re more likely to get …

- A compelling scientific question
- Appropriate NIH Institute
- Appropriate review committee
- Adequate time to complete
  – A major stress reducer!

...a better grant application
Pre-Submission Planning Timeline

PLANNING PHASE

- Assess yourself, your field, and your resources
- Brainstorm; research your idea; call NIH program staff
- Set up your own review committee; determine human and animal subject requirements

WRITING PHASE

- First outline your application’s structure; then write your application
- Get feedback; edit and proofread

SUBMISSION PHASE

- Meet institutional deadlines

Months before receipt date

- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

Receipt date
Remember … Before you start

- Talk to Program Staff at appropriate IC
- Read instructions for application form
  - SF 424 R & R
- Know your audience
  - Which Integrated Review Group (IRG) is most likely to get your application?
- Propose research about which you are passionate and totally committed to doing
Good Idea

- Does it address an important problem?
- Will scientific knowledge be advanced?
- Does it build upon or expand current knowledge?
- Is it feasible ...
  - to implement?
  - to investigate?
Good Grantsmanship

- Grant writing is a learned skill
  - Writing grant applications, standard operating protocols and manuals of procedures that get approved are learned skills
  - Writing manuscripts that get published in peer reviewed journals is a learned skill

- Grantsmanship is a full time job
  - Learn about the grant application process
Good Grantsmanship

- Searching NIH web sites is a good start
  ... *but follow up with personal contact*
- Contact NIH program staff *early*
- Ask what information would help them advise you about IC interest & “goodness of fit”
- Are there related FOAs?
Good Grantsmanship

- Collaborate with other investigators
  - Fill gaps in your expertise and training
  - Add critical skills to your team
- “Team Science” can be powerful
Multiple Principal Investigators

- Single PI model does not always work well for multi-disciplinary, collaborative research
- Recognizes contributions of full team
- In place for most submissions to Grants.gov
- Implications for “New Investigator” status
- A complex issue – *Talk to NIH program staff if you are considering multiple PIs!*

grants1.nih.gov/grants/multi_pi
Show your draft application to a colleague

Show your draft application to a colleague who does not already know what you intend to do

Show your draft application to a colleague who is not your best friend
Good Grantsmanship

- Your draft reviewers need to understand
  - What you intend to do
  - Why you believe it is important to do
  - Exactly how you are going to do it
- If they don’t get it, you must revise your application
- Leave enough time to make revisions
Good Presentation

3 Simple Steps:

- Read the application instructions carefully
- Read the application instructions carefully
- Don’t forget ...

... read the application instructions carefully
Good Grantsmanship

- Good ideas, clearly presented
- Align your application with the new review guidelines to maximize impact:
  - Significance
  - Investigator
  - Innovation
  - Approach
  - Environment
Developing a Strong Research Plan

Specific Aims

- Grab the reader immediately
- State long-term objectives AND expected impact
- Explicitly state hypotheses and research question
Developing a Strong Research Plan

Preliminary Studies/Progress Report

- How previous work -- by you, your team, and others -- leads to this study
- Demonstrate your experience, competence and likelihood of continued success
- Must flow logically from literature review and major themes of the problem area
Approach

- Does your plan flow logically from the literature review and prior studies?
- How will each hypothesis be evaluated?
- Do your measures capture the variables needed to test hypotheses?
- Why did you choose those measures?
- Methods and analyses must match
Developing a Strong Research Plan

Approach

- For clinical studies be explicit and thorough in discussing
  - intervention or system to be studied
  - target population
  - inclusion and exclusion criteria
  - independent and dependent variables
  - all measures and instruments
  - power analyses
Developing a Strong Research Plan

Some Common Miscues:

*Failure to …*

- Document why the problem is important
- Distinguish empirical findings from speculation
- Critically analyze key themes in literature
- Consider alternative perspectives
- Read, understand, and cite the crucial studies
Align with Review Criteria

1) Overall Impact (Address on Specific Aims page)

2) The 5 core review criteria:
   - Significance
   - Investigator
   - Innovation
   - Approach
   - Environment

OVERALL IMPACT

The likelihood for the project to exert a sustained, powerful influence on the research field(s) involved:

– in consideration of the following five core review criteria, and

– additional review criteria (as applicable for the project proposed)
### Alignment of Application Format with Scored Review Criteria

<table>
<thead>
<tr>
<th>Scored Review Criteria</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significance</td>
<td>Research Strategy</td>
</tr>
<tr>
<td></td>
<td>a. Significance</td>
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<tr>
<td>Investigator(s)</td>
<td>Biosketch</td>
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<td></td>
<td>Personal Statement</td>
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<tr>
<td>Innovation</td>
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<td>Approach</td>
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<td>c. Approach</td>
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<td>Environment</td>
<td>Resources</td>
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<tr>
<td></td>
<td>Environment</td>
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</tbody>
</table>
SIGNIFICANCE

- Does this study address an important problem?
- If the aims are achieved, how will scientific knowledge be advanced?
- What will be the effect on concepts or methods that drive this field?
INVESTIGATOR

- Are the investigators appropriately trained and well suited to carry out this work?
- Is the work proposed appropriate to the experience level of the principal investigator and other researchers?
- Does the investigative team bring complementary and integrated expertise to the project (if applicable)?
INNOVATION

- Does the project employ novel concepts, approaches or methods?
- Are the aims original and innovative?
- Does the project challenge existing paradigms or develop new methodologies or technologies?
Good Presentation

APPROACH

- Are the conceptual framework, design, methods, and analyses adequately developed, well-integrated, and appropriate to the aims of the project?
- Does the applicant acknowledge potential problem areas and consider alternatives?
ENVIRONMENT

- Does the scientific environment in which the work will be done contribute to the probability of success?
- Do the proposed experiments take advantage of unique features of the scientific environment or employ useful collaborative arrangements?
- Is there evidence of institutional support?
Good Presentation

- Be realistic … not overly ambitious
- Discuss potential problem areas
- Discuss possible solutions
  - Explain rationale for your decisions
- Be explicit
- Reviewers cannot read your mind …

*Don’t assume they know what you intend*
Other Review Considerations

- Human subjects
- Animal care and use
- Select agents
- Model organism sharing plan
- Data sharing plan
Good Review

Get to the right review group

- Title, abstract, specific aims all point to the main goals of your project
- Attach a cover letter for the Center for Scientific Review Division of Receipt and Referral
  - suggest IC and review group assignment*
  - outline areas of key expertise needed for appropriate review
  - do not name specific reviewers

* Consult with Program Official
Understand the dynamics of peer review:

- Reviewers will review many applications
- Make your application easy to read and easy to understand
- The impact and significance should be clear throughout the application
- Convince them to be your advocate
  - Get them on your side!
Common Reasons Cited for a Weak Application

- Lack of or weak impact
- Significance not obvious or weak
  - Too ambitious, lacking focus
  - Unclear or flawed hypothesis
  - Feasibility unsupported
- Poor writing
- Applicant track record weak or lacking appropriate expertise
- Approach flawed
Hallmarks of an Outstanding Grant Application

- Strong significance to an important problem in public health: IMPACT is high
  - High degree of novelty and innovation
- Strong track record by a well qualified applicant
- Clear rationale
- Relevant and supportive preliminary data
- Clear and focused approach that provides unambiguous results
- Careful attention to details
  - Fonts, clarity of data, error bars, spelling, etc
How to assure that your grant gets funded?

- Good ideas, well presented always win
- Think clearly
- Write clearly
- Be complete but not verbose
- Never lose sight of the significance
- Point to the impact
- Pay attention to details
Where Do I Get More Information?

NIH homepage: http://www.nih.gov/

NIDDK (or any Institute): http://www.niddk.nih.gov/

CSR website: http://www.csr.nih.gov/
Additional supporting material
Top 10 Common Reviewer Concerns

…..or How Not To Get DINGED!
# 1 Concern

There is not a CLEAR HYPOTHESIS, or WELL DEFINED GOALS

- Provide a focused hypothesis, objectives
- Describe the importance and relevance of your problem
- Be clear on how your project will move the field forward
**Hypothesis:** The proposed research seeks to examine the relationship between neurotransmitter A and neurotransmitter B signaling in Brain Region of Interest and in vivo electrophysiological measures of Brain ROI output during the transition from chronic morphine exposure to morphine withdrawal... additionally seeks to determine whether putative Brain ROI projection neurons exhibit altered basal and behaviorally-correlated firing profiles during these states... finally seeks to determine whether the observed behavioral, neurochemical, and neurophysiological indices associated with morphine dependence and withdrawal are dependent on Neurotransmitter A projections to the Brain ROI.
SA #1: Examine alterations in Brain ROI neurotransmitter A and neurotransmitter B efflux in response to acute morphine challenge and withdrawal in morphine-dependent rats

SA #2: Examine alterations in Brain ROI single-unit neuronal activity in response to acute morphine challenge...

SA #3: Determine the sensitivity of withdrawal-associated neurotransmitter A efflux, single unit neuronal activity, and withdrawal-associated behaviors to lesions of the neurotransmitter A afferent inputs
Reviewer Comments:

1. This application appears to lack a hypothesis driven from a specific mechanism.
2. Enthusiasm … dampened by the lack of a specific mechanism.
3. …..the proposal begins to look more like a collection of experiments where the applicants are simply listing experiments according to their expertise in specific techniques.
4. ….overambitious nature of the project.
# 2 Concern

The specific aims do NOT TEST the Hypothesis, or the specific aims DEPEND on results from previous aims

- The best proposals are those with independent specific aims that address your hypothesis using different approaches
**Hypothesis:** The increase in *brain* receptor subunits after chronic morphine is an adaptation to reduced tonic *neurotransmitter* release in the *brain region of interest* and elevates the threshold for opioid analgesia.

**Objective:** Study is to design opioid-based pain relief paradigms with extended analgesic efficacy and reduced risk of abuse.

**Purpose:** To determine whether *these brain* receptors are good targets for “anti-tolerance” drugs.
SA #1: Determine the anatomical location(s) of chronic morphine-induced changes in brain receptor subunit levels

SA #2: Examine the role of brain receptor subunits in opioid-induced behaviors other than analgesia

- R01
- Requested $225,000 direct costs / 5 years
Reviewer Comments:

1. Unfortunately, several of the experiments proposed do not directly test the hypothesis and may or may not aid in our further understanding of opioid tolerance.

2. ..it is not clear whether such changes would correlate with anti-nociceptive function

3. ..there is a lack of preliminary data determining whether such studies can be accomplished and whether any significant changes can be measured

4. ..the literature reports 15 to 20 different mechanisms demonstrating the inhibition of opioid anti-nociceptive tolerance, yet none of these are addressed

5. ..studies proposed in aim 2 lack rationale
# 3 Concern

The proposal is **NOT MECHANISTIC, or**

**NOT SCIENTIFICALLY RELEVANT**

- Do not propose correlative studies, propose strong associations
- Do not propose general observations, propose specific manipulations
Hypothesis: Sustained electrical activity enhances neuronal process X activity, targeting select proteins essential for synaptic vesicle neurotransmitter release and downregulating presynaptic output in neurotransmitter A neurons.

Objective: To define the cellular pathways initiated during periods of increased electrical activity to induce subsequent decreases in synaptic output.

Propose: Signal Transduction pathway 1 acts ultimately to phosphorylate and protect the key presynaptic targets of the process X structure.
SA #1: Investigate the interplay between process X function and Signal Transduction 1 signaling in persistent neuronal plasticity

SA #2: Validate roles for the presynaptic proteins ABC1 and ABC2 in persistent neuronal plasticity

- R01
- Requested $225,000 direct costs / 5 years
Reviewer Comments:

1. "the investigator presents an unrealistically simplistic picture of Signal Transduction 1 signaling in neurons"

2. "The general experimental design relies on correlative studies of signaling systems that are highly complex, and which act at multiple levels."

3. "The anticipated outcomes are discussed only superficially and assume only that the experiments will turn out to support the investigator’s hypothesis…many outcomes can be imagined"

4. "The paradigms still place the neurons in unnatural (non-physiological) environments for extraordinarily long periods of time....this model system (cultured cells) reduces the significance of the project because the relevance to more realistic neuronal networks remains unclear"

5. "experiments have been added which are outside the technical expertise of the investigator and for which preliminary data are not in hand"
Hypothesis: Combined Treatment A/B group will have a greater reduction in substance use and better outcomes three months after study entry, and lower HIV risk from drug or sexual behaviors.

Purpose: Examine the utility of a Combined Treatment A/B protocol in the hospital emergency department with persons at risk for drug addiction and its associated health consequences.

SA #1: Determine the impact of a Combined Treatment A/B protocol on substance use, HIV risk reduction, health care utilization, and health status among persons at moderate or high risk for substance abuse seeking treatment in a hospital emergency department.
Reviewer Comments:

1. The initial model of care is not different from the current practice....thus, it is not clear that this Combined Treatment A/B protocol will have an impact of identifying new patients who need counseling.

2. ...the significance of this Combined Treatment A/B application is compromised by the failure to integrate the intervention into existing practice.

3. The recruitment process is not based on a uniform screening protocol (lack of specifics on subject recruitment, interview process, support personnel, follow-up strategy).
# 4 Concern

This application is not APPROPRIATE for the GRANT MECHANISM

- A R21 is NOT a R01
- A Career Development Award (K) is NOT a Research Project Grant (R)
**Hypothesis:** Amphetamine-induced *Behavior A* targets *Transcription Factor X* to dendritic structures such as the spines of pyramidal cells or the dendrites of interneurons of the *Brain ROI*

**SA #1:** Amphetamine-induced *Behavior A* alters *Transcription Factor X* immunoreactivity in pyramidal neurons and/or interneurons

**SA #2:** Amphetamine-induced *Behavior A* targets *Transcription Factor X* to dendrites and spines that receive excitatory synapses
Reviewer Comments:

1. This proposal ......is somewhat novel, although mainly in the sense that no one previously has examined this issue before in the Brain ROI. However, in essence this question reflects more of an incremental advance in our knowledge as opposed to the novel ideas targeted by the R21 mechanism.
# 5 Concern

The proposal is **OVERLY AMBITIOUS**

- Set realistic goals for the budget and project period you propose
# 6 Concern

PRELIMINARY DATA is lacking

- Include preliminary data for all aims
- Use preliminary data to show knowledge of methods and data analyses
- But DO propose more than just confirming preliminary results
# 7 Concern

I’m not sure that the Investigator can do the PROPOSED EXPERIMENTS

- Don’t propose what you can’t do
- Include Collaborators and Consultants on your project
- Describe the value of datasets and experimental models
# 8 Concern

The background section is **MISSING KEY** publications and experimental findings

- Thoroughly describe the literature, especially controversies, *but*
- Support your views and ideas
- Be sure you have found key references
Grant 6

Objective: Study is designed to revise and evaluate *Intervention Model A* for homeless adolescents

Purpose: Intervention Model A has been thoroughly developed and standardized for adults, but not as well for adolescents, and certainly not within existing services. This will be a stage I, early treatment development project, with the aim of refining *Intervention Model A* for homeless adolescents.
SA #1: Refine the existing Intervention Model A [for adults] program to develop an integrated Intervention A and Intervention B treatment program for homeless adolescents presenting symptoms of substance use disorders and self-injury/suicidality.

SA #2: Examine the feasibility of delivering the new Integrated Intervention program within the context of the [currently used] youth Intervention program recently developed .... for homeless adolescents.

SA #3: Conduct a pilot study, comparing the new Integrated Intervention program to Treatment-as-Usual in a randomized two group repeated measures design, assessing clients enrolled in [the currently used] homeless adolescent Intervention program who are experiencing substance abuse use disorder symptoms and suicidality/self-injurious behaviors.
Reviewer Comments:

1. "the application does not provide a balanced, critical review of Intervention Model A with substance-abusing adults, and why this approach would, in turn, be promising with homeless youth"

2. "there is an almost complete absence of focus on substance abuse or the integration of Intervention Model A [previously] adapted for this problem"

3. "Other more serious design problems include different assessment schedules, attendance burden, and discharge rules between the two conditions"

4. "inclusion criteria ...are extremely broad...would seem to introduce enormous heterogeneity to the sample selected"

5. "What is not well-specified in the application is how the team will decide if the results of the trial warrant the move to a large efficacy trial."
# 9 Concern

Experimental details, alternative approaches, or interpretation of data are INADEQUATELY DESCRIBED

- Don’t assume the reviewers know the methods
- Provide other experimental directions you might use should you encounter problems
- Show the reviewers that you have thought about your research plan
# 10 Concern

The Proposal is NOT RELEVANT to the MISSION of the Institute

- Don’t try to make your application FIT the Mission of a particular Institute
Funded Applications
Hypothesis: *Chronic drug* exposure upregulates the expression of *Factor X*, which triggers and sustains the exocytotic trafficking and surface expression of functional *Receptor A*

Purpose: To investigate the molecular mechanisms for *Factor X*-induced *Receptor A* trafficking
Good Grant 1

SA #1: Determine the signaling pathways mediating Factor X-induced Receptor A trafficking

SA #2: Determine Factor X involvement in drug-induced Receptor A trafficking

SA #3: Determine the synaptic sites of Receptor A trafficking and Receptor A-B interactions

SA #4: Determine the behavioral significance of emergent Receptor A and behavioral Receptor A-B interactions
Reviewer Comments:

1. Strengths are numerous and include novel and innovative hypotheses, sound experimental design using multidisciplinary approaches, a highly qualified investigator and research team, and a high likelihood of meaningful findings.

2. Strengths include the significance of the central hypothesis, the well-designed experimental plan, supportive preliminary data ….

3. ..the rationale for the studies are clearly delineated, appropriate controls are in place, scope of the studies is appropriate, and there is … complete discussion of possible limitations of some approaches and how findings will be interpreted.
**Objective:** To use … conceptual and statistical models to address challenges in the development of practical strategies for measuring the quality of *community treatment* programs

**Purpose:** To extend previous approaches to casemix adjustment for performance measurement, and the feasibility of valid outcomes-based performance measurement systems for *community treatment*. 
SA #1: Test whether Treatment Program A demonstrates efficacy under experimental conditions relative to community-based care programs, can be translated to a set of community-based care programs, and is effective relative to a set of community-based care programs.

SA #2: Identify program features associated with good client outcomes which might serve as indicators of the quality of community-based treatment programs.

SA #3: Identify candidate quality indicators appropriate for assessing the performance of community-based care programs in serving key client subgroups.
Reviewer Comments:

1. The evaluation of Treatment Program A .. in real world settings, and the examination of efficacy, translational, and effectiveness outcomes in a single study represents a highly significant endeavor.

2. ..the approach to aim 1 is elegant

3. The study has the potential to address a major gap in treatment services research, and to guide diffusion of research-based practices to real world settings

4. The solid design and measurement aspects of the study and the innovative analytical approach ..make this an exciting application with the potential for high impact on the field
Three Simple Rules to remember when planning, writing and submitting your application
DO NOT write the application for yourself unless you are going to fund it yourself.

You MUST convince the entire review committee and the funding agency.
Reviewers are never wrong. Reviewers are never right.

They simply provide an assessment of material that you provided in your application.

Don’t take it personally!
The comments in the summary statement only list some of the weaknesses... not all of the weaknesses.

When you revise your application use the time as an opportunity to improve the entire application.
More Web Resources
Funding Opportunities - sites with important information:

http://grants.nih.gov/grants/index.cfm
http://grants.nih.gov/grants/welcome.htm#introduction
http://deainfo.nci.nih.gov/funding.htm
http://deainfo.nci.nih.gov/extra/extdocs/grantrevprocess.htm
http://www.niaid.nih.gov/ncn/glossary/default.htm
Grant Writing Tips Sheets

Many NIH Institutes put out guides and tip sheets on their Web sites. These guides can be useful resources. Here are just a few.

- All About Grants - Including Grant Application Basics, How to Plan a Grant Application and How to Write a Grant Application.
- Applying for an NHGRI Grant
- Choosing an Appropriate NIH Funding Instrument and Funding Mechanism (MS Word - 209 KB)
- NIH Grants Information CD (PDF - 51 KB)
- Peer Review Guidelines and Information
- Peer Review Meetings - Meeting dates, descriptions, rosters, guidelines, etc.
- Preparing Grant Applications
- Quick Guide for Grant Applications
- Quick Guide for the Preparation of Grant Applications (Complementary and Alternative Medicine)
- SBIR/STTR Policy and Grantsmanship Information
- Tips for New NIH Grant Applicants
- Writing a Grant

Note: For help accessing PDF, RTF, MS Word, Excel, PowerPoint or RealPlayer files, see Help Downloading Files.
### Glossary & Acronym List

For a complete list of acronyms only, go to [Acronym List](https://grants.nih.gov/grants/glossary.htm).

To Search this Page, use the Find Command (Ctrl-F).

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td><strong>Academic Research Enhancement Award (AREA)</strong></td>
<td>Grant award that stimulates research at health professional academic institutions with less than $3 million of NIH support in total costs in four or more of the last seven years. Go to <a href="https://grants.nih.gov/grants/glossary.htm">AREA</a>.</td>
</tr>
<tr>
<td><strong>Accession Number</strong></td>
<td>Related to electronic submission of applications, the Accession number is the Agency tracking number provided for the application after Agency validations.</td>
</tr>
<tr>
<td><strong>Account</strong></td>
<td>The term &quot;account,&quot; as used by the <a href="https://era.nih.gov">NIH eRA Commons</a>, is a personal account that an individual would use to log into the NIH eRA Commons. An account is identified by a unique combination of username and password.</td>
</tr>
<tr>
<td><strong>Account Administrator (AA)</strong></td>
<td>An Account Administrator (AA) is designated by an SO at a grantee organization to facilitate the administration of <a href="https://era.nih.gov">NIH eRA Commons</a> accounts. The AA can create, modify and/or remove the necessary accounts for these types: AO, AA, FSR, PI or ASST. Although the AA can create additional accounts, the AA cannot modify institutional profile (IPF) information. The AA typically will be in the central research administration office.</td>
</tr>
<tr>
<td><strong>Acquisition</strong></td>
<td>Obtaining supplies or services by the federal government with appropriated funds through purchase or lease. See <a href="https://grants.nih.gov/grants/glossary.htm">Contract - R&amp;D</a>.</td>
</tr>
<tr>
<td><strong>Active Grant</strong></td>
<td>A grant that meets the following criteria is defined as an &quot;active grant&quot;:</td>
</tr>
</tbody>
</table>
Grants Information:

- NCI's publication *Everything you Wanted to Know About the NCI Grants Process But Were Afraid to Ask* describes, in a general way, how a grant is awarded and administered. Although the discussion relates to the National Cancer Institute (NCI), the grants process is similar in the other National Institutes of Health (NIH) awarding components.

- A wealth of information for NIH's New Grantees may be found in NIH's Office of Extramural Research's (OER's) "Welcome Wagon" Letter. The intent of this memorandum is to highlight key requirements, provide referrals to important sources of information available from NIH, and identify NIH and Department of Health and Human Services (DHHS) offices having responsibility for certain administrative functions.

- The National Institutes of Health Grants Policy Statement (NIHGPS) is intended to make available to NIH grantees, in a single document, up-to-date policy guidance that will serve as the terms and conditions of NIH awards.

- NIH's Electronic Research Administration (ERA) Commons is a virtual meeting place where NIH extramural grantee organizations, grantees, and the public can receive and transmit information about the administration of biomedical and behavioral research. The ERA Commons is divided into both unrestricted and restricted portions that provide for public and confidential information, respectively.

- NIH Grant Funding Opportunities - NIH's Office of Extramural Research (OER) provides web accessible information about ongoing grant programs and special initiatives. OER's funding opportunities web site includes application kits, guidelines for applications for various types of grants and identification of appropriate contacts at the NIH institutes and centers that make awards.

- The NIH forms and applications for Grantees which are available online are maintained by NIH's Office of Extramural Research (OER).

- The NIH Guide for Grants and Contracts contains NIH notices, program announcements (PAs) and requests for applications (RFAs) and is maintained by NIH's Office of Extramural Research (OER).

- DHHS's GrantsNet is a tool for finding and exchanging information about HHS and selected other Federal grant programs. It is part of the much publicized national movement toward providing government resources to the general public in a more

http://www3.cancer.gov/admin/gab/links.htm
CONSUMER GUIDES FOR PEER REVIEW

Complete Guide Book to Peer Review

The NCI Consumers’ Guide to Peer Review has been prepared to serve first as an introduction and orientation to the National Cancer Institute (NCI) and its Research Programs and second to define your role as a consumer in the Peer Review of applications that support extramural clinical/population-based research conducted by Cancer Centers, Cooperative Groups, Program Projects, and projects submitted in response to Requests for Applications (RFAs) and Program Announcements (PAs).

Cancer Dictionary for Peer Review

The NCI Consumers’ Cancer Dictionary for Peer Review is designed to provide concise definitions of technical terms frequently used in applications for NCI-sponsored investigator-initiated research. The terms include those commonly associated with the molecular biology of cancer, immunology, and clinical oncology. These definitions, in association with the review process, will increase your familiarity and understanding of the biology and clinical aspects of cancer. We hope this will facilitate and make your participation in the Peer Review process more meaningful.
Quick Guide for Grant Applications

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Grant Funding Resources
Grant Review Process
Resources by Category

NIH RESOURCES
Guide for Grants & Contracts
Office of Extramural Research

OTHER LINKS
CancerTrials Update!
Surveillance, Epidemiology and End Results (SEER)

OTHER CONTACTS
Program Director’s Roster
These "All About Grants" tutorials help biomedical investigators, especially new ones, plan, write, and apply for the basic NIH research project grant, the R01. Our advice comes from the experience of NIAID staff, including former NIH grantees, and should be considered as opinion only. Differing opinions may exist.

We do not repeat instructions in the PHS 398 grant application kit. Before preparing an application for an NIH grant, read all instructions, and follow the directions.

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Find more information on the main Grants Funding page, including:

- Annotated R01 Grant Application
- Quick Facts on Research Grant Applications
http://era.nih.gov/

These opportunities with submission deadlines of Friday, July 20, 2007 will have two extra business days (until Tuesday, July 24) to submit their applications. This extension applies to the July 20, 2007 submission deadline and these opportunities only. The change is being made to accommodate applicants that were unable to submit their applications due to a Grants.gov system failure that began late Thursday, July 19 and extended into Friday, July 20.

Support Tip: We encourage you to take advantage of our new web support at http://ithelpdesk.nih.gov/eRA. When requesting support please supply as much of the requested data as possible for faster service.

Electronic Submission Tip: Learn about the most frequent application errors at Avoiding Common Errors.

https://commons.era.nih.gov/commons/
http://era.nih.gov/virtualschool/
NIH Grants Policy Statement (12/03)

Table of Contents

NIH Grants Policy Statement (12/03) - Effective for all NIH grants and cooperative agreements with budget periods beginning on or after December 1, 2003. See 03/01 NIHGPS and 10/98 NIHGPS for prior budget periods. See 11/26/2003 NIH Guide for description and notable changes since the 2001 version.

Download PDF File(s) - PDF files containing the NIHGPS are available for viewing, searching and/or printing. You may download the Complete NIHGPS in a Single File (2.1MB) OR you may download the NIHGPS in two smaller parts, Part 1 of 2 (1.2MB) and Part 2 of 2 (1.2MB), in the event that you experience viewing or printing problems due to the size of the single file.

Change to the NIHGPS - The statement on the allowability of Invention, Patent, or Licensing Costs under Part II of the NIH Grants Policy Statement has been updated, as announced in the May 27, 2004 NIH Guide notice. The html and pdf versions of the document have been updated accordingly.

Introduction - NIH Grants Policy Statement

Part I: NIH Grants—General Information

GLOSSARY

Abbreviations
Definitions of Terms
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Automated Training Tutorials

- eRA Commons Registration
- Completing an Application Package (Grants.gov)
- Find & Download a Funding Opportunity
- Check Submission Status & View Assembled Application (PI & SO versions)

era.nih.gov/ElectronicReceipt/training.htm
Frequently Asked Questions
[era.nih.gov/ElectronicReceipt/faq.htm]

Avoiding Common Errors
[era.nih.gov/ElectronicReceipt/avoiding_errors.htm]

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