

NIH – Research Grants “R” Toolkit

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Types of Research Grants

Among the most common R grants are the following:

R01: Research Project Grant Program. NIH’s most commonly used grant program. Supports discrete research projects, generally for three to five years, with no specific dollar limit unless specified in the FOA. Renewable.

R03: Small Grant Program. Funds shorter duration grants, limited to two years with direct costs up to \$50,000 per year, for pilot projects, smaller studies, data collection, and the like. R03s are not renewable.

R21: Exploratory/Developmental Research Grant Program. Supports new, exploratory, and developmental projects in their early stages. Can sometimes be used for pilot/feasibility studies. Limited to two years of funding, generally not to exceed \$275,000 in combined direct and indirect costs.

Sample Funded Proposals

R01: <https://www.niaid.nih.gov/grants-contracts/sample-applications#r01>

R03: <https://www.niaid.nih.gov/grants-contracts/sample-applications#r03>

R21: <https://www.niaid.nih.gov/grants-contracts/sample-applications#r21>

Application Process and Guidance

eRA Commons ID

All senior/key personnel are now required to have eRA Commons IDs on NIH applications. If you do not already have a Commons ID, please be sure to register for an account. For assistance, please review NIH’s [How to Get a User ID for eRA Commons](#) video or call the eRA Service Desk at 1-866-504-9552.

Formatting Guidance

- 11-point font or larger (smaller text allowed in figures, graphs, diagrams, and charts as long as legible to reviewers)
- Recommended fonts (Arial, Georgia, Helvetica, Palatino Linotype)
- Do not include headers or footers – these will be added automatically
- Headings (e.g., Significance, Innovation) within the text are higher encouraged for readability. Take note of any FOA required sections/headings that must be present.
- Hyperlinks and URLs are prohibited unless specifically noted in the FOA
- Use 8/12”x11” paper size with at least ½” margins on all sides.
- Adhere to [page limits](#) on all attachments

Core Application Attachments

Project Summary

Limited to 30 lines of text describing the long-term objectives and specific aims of the project. Describe the research design and methods for achieving the stated goals.

Project Narrative

Limited to three sentences describing the relevance of the research to public health.

Bibliography & References Cited

Not page limited. Note that when citing articles that fall under the Public Access Policy, were authored or co-authored by the applicant, and arose from NIH support, provide the NIH Manuscript Submission reference number (e.g., NIHMS97531) or the PubMed Central (PMC) reference number (e.g., PMCID234567) for each article. If the PMCID is not yet available because the Journal submits articles directly to PMC on behalf of their authors, indicate "PMC Journal – In Process." You may include URLs for citations that are not covered by the Public Access Policy, but active hyperlinks are not allowed.

Facilities & Other Resources

Describe the scientific environment in which the research will be done and how this contributes to probable success. Note ways in which the study will benefit from unique features of the scientific environment. If there are multiple performance sites, describe the resources available at each site. Describe any facilities used for working with biohazards and any other potentially dangerous substances.

Equipment

List major items of equipment already available for this project and, if appropriate, identify the equipment's location and pertinent capabilities.

Biographical Sketch

Limited to five pages. All senior/key personnel must submit a biosketch. Visit [this webpage](#) for further instructions, FAQs, and to download the template.

Note: [SciENcy](#) can also be used to develop your biosketch and automatically format it according to NIH requirements.

The biosketch is an opportunity to highlight researcher expertise and experience to instill confidence in reviewers that the project team is qualified and capable of conducting the proposed research.

Specific Aims

Limited to one page. Concise statement of goals and expected outcomes (including impact on the field). Be sure you can complete the aims within the timeframe of the project. Listing 2-4 aims is encouraged, with three being fairly typical.

Research Strategy

R03 & R21: 6-page limit. R01: 12-page limit. *No hyperlinks or URLs unless specified in FOA. Should follow NIH's prescribed organization: 1) Significance; 2) Innovation; 3) Approach

- **Significance:** Explain the importance of the problem; strengths/weaknesses of prior approaches to the problem; how the project will improve knowledge, capacity, or practice.
- **Innovation:** Explain novel aspects of the project and how it will advance the field or practice in new ways. Describe any novel concepts, approaches or methodologies, instrumentation, etc.
- **Approach:** Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Describe the experimental design and methods proposed and how they will achieve robust and unbiased results. Include how the data will be collected, analyzed, and interpreted, and reference any Resource Sharing Plans as appropriate. Discuss potential problems, alternative strategies, and benchmarks for success to achieve the aims.
- Renewal/revision applications must include a progress report in the research strategy that fits within the page limits.

Budget

There are two types of budget forms: R&R detailed budget and modular budget. Generally, you must use the R&R Budget Form if you are applying for more than \$250,000 per budget period in direct costs, and you must use the Modular Budget Form if you are applying for less than \$250,000. Consult the FOA to determine if a specific form must be used. You must contact NIH prior to submitting the application if requesting \$500,000 or more in direct costs for any budget period. If you have subawards, you must use the R&R subaward budget attachment form in conjunction with the R&R budget form.

Budget Justification

For R&R detailed budgets, provide narrative justification of each category, including description of effort.

For modular budgets include: 1) Personnel justification (listing all personnel with percent effort and roles on the project; 2) Consortium justification (as needed, providing estimate of total subaward costs – list all personnel with percent effort and roles on the project); 3) Additional narrative justification (any additional justification as needed – e.g., variations in number of modules requested).

Conditionally required attachments

Introduction to the Application

Limited to one page. Only required for resubmission or revision application, or if the FOA specifically requires an introduction. This attachment is not allowed for new or renewal applications.

Vertebrate Animals

Must be included if answering “yes” to the question “Are vertebrate animals used?” Address the following: 1) Description of the procedures; 2) Justification; 3) Minimization of pain and distress.

Select Agent Research

Required if project involves use of select agents at any performance site. 1) Identify select agents; 2) Provide registration status of all entities where select agents will be used; 3) Provide description of all facilities where the select agents will be used.

Multiple PD/PI Leadership Plan

Required when there will be multiple PD/PIs on a project (as opposed to a single PI with Co-Is, etc.). Provide a rationale for choosing this approach and a description of the project governance and organizational structure. This includes communication plans and processes for making decisions and resolving conflicts.

Consortium Agreements

Include if there are subawards/contracts on the project. Explain the programmatic, fiscal, and administrative arrangements to be made between the applicant organization and the consortium organization(s).

Letters of Support

Include to demonstrate the support of consortium participants and collaborators such as Senior/Key Personnel and Other Significant Contributors included in the grant application.

Resource Sharing Plan

Investigators seeking \$500,000 or more in direct costs (exclusive of consortium F&A) in any budget period 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 (for example human subject concerns, the Small Business Innovation Development Act provisions, etc.). Specific FOAs may require that all applications include this information regardless of the dollar level.

Regardless of 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 why such sharing is restricted or not possible.

Applicants seeking funding for research that generates large-scale human or non-human genomic data are expected to provide a plan for sharing of these data.

Authentication of Key Biological and/or Chemical Resources

If applicable to the proposed science, briefly describe methods to ensure the identity and validity of key biological and/or chemical resources used in the proposed studies. A maximum of one page is suggested.

Cover Letter

The cover letter is for internal NIH use only and is not shared with reviewers. Cover letters should be addressed to the Division of Receipt and Referral. Note: NIH requests applicants not to use the cover letter to convey assignment requests. The Assignment Request Form should be used for this purpose. For more details: <https://www.niaid.nih.gov/grants-contracts/cover-letters>

Additional Guidance

For full details of application requirements and/or a more in depth description of any section outlined above, please review the full forms instructions: <https://grants.nih.gov/grants/how-to-apply-application-guide/forms-g/research-forms-g.pdf>.

Checklist

Core Required Attachments

- Project summary (30 lines)
- Project narrative (3 sentences)
- Bibliography & References Cited
- Facilities & Other Resources
- Equipment
- Biographical Sketches for all senior/key personnel (5 pages)
- Specific Aims (1 page)
- Research Strategy (R01: 12 pages; R03/R21: 6 pages)
- Budget justification (appropriate for budget form used)

Conditionally Required Attachments (see above for details)

- Introduction to the application (1 pages)
- Vertebrate animals
- Select agent research
- Multiple PD/PI leadership plan
- Consortium agreements
- Letters of support
- Resource sharing plan
- Authentication of key biological and/or chemical resources
- Cover letter

Timeline

