

GUIDE FOR ASSIGNED REVIEWERS' PRELIMINARY COMMENTS ON EXPLORATORY/DEVELOPMENTAL GRANT MECHANISM (R21)

The R21 mechanism is designed for exploratory or developmental research. R21 grant programs are often designed to allow investigators to conduct research on innovative ideas or develop new concepts or technologies. R21 applications generally can only be submitted in response to a specific NIH initiative. Each initiative has its own unique features and often has unique review criteria. Thus, reading the specific announcement is very important in reviewing R21s. Please carefully read the announcement before preparing your review. Awards vary by Institute and purpose of initiative and may be from one to five years, but generally are for 2 years in duration. Budgets can also vary significantly, but they are typically from \$75,000 to \$150,000 per year and thus follow the modular budget requirements. Again, read the specific announcement for details. Although R21s cannot be renewed, the objective is that they would lead to regular research grant (e.g., R01, P01, U01, etc.) funding in the future. Please use the following guidelines when preparing written comments on R21 grant applications assigned to you for review. In your written review, you should comment on the following aspects of the application in order to judge the likelihood that the proposed research will have a substantial impact on the pursuit of these goals. NOTE: Your written reviews should not bear personal identifiers because essentially unaltered comments will be sent to the applicant.

DESCRIPTION: The NIH now scans the description on page 2 of an application for use in the Description Section of the summary statement, and all text between the words DESCRIPTION and CRITIQUE are abstracted. However, as a reviewer you will need to be prepared to present the application to the Study Section so that all members can follow the critiques and discussion. Thus, to avoid abstracting, any description you write (in prose or in bullet form) for your use in making this presentation must be under the "CRITIQUE" heading.

CRITIQUE: Include as little descriptive information in this section as possible. Please address, in individual sections, each criterion listed in the announcement. In addition, for amended applications, address progress, changes, and responses to the critiques in the summary statement from the previous review, indicating whether the application is improved, the same as, or worse than the previous submission. Comments on progress and response to the previous review should be provided in a separate paragraph and/or under the appropriate criteria. If there is a criterion on Investigator, PLEASE DO NOT INCLUDE descriptive biographical information unless important to the evaluation of merit. If there is a criterion on Environment, PLEASE DO NOT INCLUDE description of available facilities or equipment unless important to the evaluation of merit. **OVERALL EVALUATION:** In one paragraph, briefly summarize the most important points of the Critique, addressing the strengths and weaknesses of the application in terms of the review criteria. Recommend a score reflecting the overall impact of the project on the field, weighting the review criteria of the specific announcement, as you feel appropriate for each application. An application does not need to be strong in all categories to be judged likely to achieve the goals of the initiative and, thus, deserve a high merit rating.

PROTECTION OF HUMAN SUBJECTS FROM RESEARCH RISKS: Evaluate the application with reference to the following criteria: risk to subjects, adequacy of protection against risks, potential benefit to the subjects and to others, importance of the knowledge to be gained. (If the applicant fails to address **all** of these

elements, notify the SRA immediately to determine if the application should be withdrawn.) If all of the criteria are adequately addressed, and there are no concerns. Write "Acceptable Risks and/or Adequate Protections." A brief explanation is advisable. If one or more criteria are inadequately addressed, write, "Unacceptable Risks and/or Inadequate Protections" and document the actual or potential issues that create the human subjects concern. If the application indicates that the proposed human subjects research is exempt from coverage by the regulations, determine if adequate justification is provided. If the claimed exemption is not justified, indicate "Unacceptable" and explain why you reached this conclusion. Also, if a clinical trial is proposed, evaluate the Data and Safety Monitoring Plan. (If the plan is absent, notify the SRA immediately to determine if the application should be withdrawn.) Indicate if the plan is "Acceptable" or "Unacceptable", and, if unacceptable, explain why it is unacceptable.

GENDER, MINORITY AND CHILDREN SUBJECTS: Public Law 103-43 requires that women and minorities must be included in all NIH-supported clinical research projects involving human subjects unless a clear and compelling rationale establishes that inclusion is inappropriate with respect to the health of the subjects or the purpose of the research. NIH requires that children (individuals under the age of 21) of all ages be involved in all human subjects research supported by the NIH unless there are scientific or ethical reasons for excluding them. Each project involving human subjects must be assigned a code using the categories "1" to "5" below. Category 5 for minority representation in the project means that only foreign subjects are in the study population (no U.S. subjects). If the study uses both then use codes 1 thru 4. Examine whether the minority and gender characteristics of the sample are scientifically acceptable, consistent with the aims of the project, and comply with NIH policy. For each category, determine if the proposed subject recruitment targets are "A" (acceptable) or "U" (unacceptable). If you rate the sample as "U", consider this feature a weakness in the research design and reflect it in the overall score. Explain the reasons for the recommended codes; this is particularly critical for any item coded "U".

Category	Gender (G)	Minority (M)	Children (C)
1	Both Genders	Minority & non-minority	Children & adults
2	Only Women	Only minority	Only children
3	Only Men	Only non-minority	No children included
4	Gender Unknown	Minority representation unknown	Representation of children unknown
5		Only Foreign Subjects	

NOTE: To the degree that acceptability or unacceptability affects the investigator's approach to the proposed research, such comments should appear under "Approach" in the five major review criteria above, and should be factored into the score as appropriate.

ANIMAL WELFARE: Express any comments or concerns about the appropriateness of the responses to the five required points, especially whether the procedures will be limited to those that are unavoidable in the conduct of scientifically sound research.

BIOHAZARDS: Note any materials or procedures that are potentially hazardous to research personnel and indicate whether the protection proposed will be adequate.

OTHER CONSIDERATIONS (for Administrative Notes in the Summary Statement):
These comments are useful to NIH but should not influence your overall score.

BUDGET: Evaluate the direct costs only. Do not focus on detail. Determine whether the total budget is appropriate for the project proposed. Provide a rationale for suggested modification in amount or duration of support.

FOREIGN: If the applicant organization is foreign, comment on any special talents, resources, populations, or environmental conditions that are not readily available in the United States or that provide augmentation of existing U.S. resources. In addition, indicate whether similar research is being performed in the U.S. and whether there is a need for such additional research. These aspects do not apply to applications from U.S. organizations for projects containing a significant foreign component.