

Review Criteria for Academia Sinica Infectious Diseases Research (IDR) Project

Academia Sinica **Infectious Diseases Research** Project grant is established to address the following mission: **rapid deployment of preventive and therapeutic solutions to emerging infectious diseases**. The topics include rapid diagnosis, drug and antibody design and screening, vaccines, omic and systems analysis, and any other innovative ideas that are instrumental in achieving the mission. Fundamental mechanistic investigations and platform technology development, such as automation, AI, and advanced imaging, are also welcome as long as the results will contribute significantly to achieving the goal. Projects seeking rapid practical solutions should also consider manufacturing and regulatory issues and propose a “total solution”. The ideal goal is to build the most efficient workflow to obtain rapid test kits (in 1 month), neutralizing antibodies (in 3 months), repurposed or new drug leads (in 6 months), and vaccines (1-1.5 years). To achieve these benchmarks, innovative ideas and preparedness are essential. In addition to research problems, PIs are encouraged to consider issues in technology transfer, for pre-clinical and clinical trials, as well as regulatory approval processes.

Submitted proposals should provide concrete research plan and strategies, targeting pathogens of emerging infectious disease that pose a significant threat to human societies, with critically laid out timeline, anticipated deliverables and milestones. Current focal points include:

1. Methods to collect and monitor pathogenic viruses and other pathogens
 2. Tests and kits for screening pathogens and disease diagnosis
 3. New chemicals or re-purposed drugs
 4. Therapeutic antibodies
 5. Vaccines of good efficacy and safety
 6. Advanced, semi- and fully automated research workflow, platform technologies, and/or production instruments
 7. Mechanistic research and platform technologies that facilitate accomplishing the project mission
 8. Regulations governing product commercialization from research outputs
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To aid Principal Investigators in preparing grant applications, the **review criteria** for **Infectious Diseases Research Project** are provided below. **Reviewers** will be asked to provide a thorough evaluation based on the following specific bullet-point questions and rank the proposal accordingly on a scale of 1–5. Applicants are reminded that **potentials in accomplishing the specified mission of rapid deployment of preventive and therapeutic solutions to emerging infectious diseases** within the proposed timeframe will be the main points considered in the overall funding decision.

1. How significant is the specific problem to be addressed?

- What is the specific problem in preventing or treatment of the particular emerging infectious disease to be addressed?
- Is the specific problem important relevant and important to the overall mission of this program?
- Has the problem been identified by others before?
- Has the problem been solved before?

2. To what extent is the idea innovative?

- What are the novel elements in this application?
- What are the closest ideas published by others to date?
- Is there any major flaw in the proposed idea?

3. What is the extent of anticipated impact?

- If the project succeeds, to what extent will the outcomes impact the solution to the problem identified?
Note: The impact can be scientific or in practical applications, contributing to prevention or treatment of a particular infectious disease.
- Will the impact be game-changing in rapid deployment of preventive and therapeutic solutions to that particular disease?
- What are the remaining issues important to solving the problem, but not addressed by the applicants?

4. How feasible is the Research Plan and proposed approach?

- Has the applicant(s) thought through the problem thoroughly?
- Has the applicant(s) identified the risks involved and provided plans to de-risk?
- Are there any major flaws in the proposed approach to the problem?
- Can the applicants deliver significant results during project period? How feasible are the proposed timeline and the projected milestones?
- Are different components or specific aims well-integrated and synergistic?

5. Do the applicants have relevant expertise? Are they committed?

- Does the applicant have a strong record in conducting cutting edge research and deliver impactful results?
- Can you find evidence that the applicants are committed to deliver impactful results during the project period? Is the proposed project a major component of their research?
- Do all the component leads have significant roles?

6. Is the proposed project internationally competitive?

- How does the quality of this application compare with the top level globally?

Applicants are advised to prepare their proposals so that Reviewers can easily identify the answers to each of the questions. The score sheets and evaluation reports from all solicited **ad hoc Reviewers** will be compiled and forwarded to a standing **Review Panel**. Two Panel members will be assigned to critically evaluate each of the shortlisted applications based on the same review criteria. The Panel members will be asked to take into consideration the assessments by ad hoc reviewers but are free to provide independent critique and counter arguments, particularly during the final round-table discussion.

All Reviewer's comments will be redacted and provided to the applicants after the completion of the review process.

Note: Please refer to the funding opportunity announcements and other relevant documents available online including the guidelines provided in the application forms and templates, for additional requirements and details.