

Genes in Space

Detailed Scoring Criteria

- I. The proposal relates to an open question or challenge relevant to space biology.
 - Significance to humanity explained.
 - Relevance to space exploration articulated.
- II. The proposal has a clear rationale for why the experiment must be conducted aboard the International Space Station.
 - Experiments that could be conducted solely under Earth conditions will not be considered.
- III. The space biology question or challenge is best explored using molecular biology methods, and a specific molecular/genetic target has been identified for investigation.
 - Proposals that do not name a molecular/genetic target for investigation will not be considered.
 - The relevance of the target to the identified space biology problem is clearly explained.
 - If an -omics approach is proposed, the rationale must be well-explained and supported by prior published research.
- IV. The hypothesis or research goal is clear and well-reasoned.
 - The hypothesis or research goal demonstrates an understanding of previous scientific discoveries about the topic.
 - The proposal clearly explains how the hypothesis or research goal will fill a gap in scientific knowledge/understanding.
- V. The experimental plan is clear and actionable.
 - The experimental plan clearly conveys the samples and controls that will be tested.
 - The experimental plan clearly conveys the type of quantitative and/or qualitative measurements that will be collected.
- VI. The experimental design makes sensible use of the Genes in Space Toolkit
 - The experiment uses at least one of the toolkit options (miniPCR® thermal cycler, BioBits® cell-free protein expression system, P51™ Molecular Fluorescence Viewer).
 - Rationale for using the selected tool(s) is accurate.
 - Selected tool(s) will yield data addressing the identified space biology problem.
- VII. The proposal communicates ideas clearly and convincingly.
 - Writing is easy to follow.
 - Arguments are engaging and persuasive.
 - Writing is precise without significant logical leaps or the need for additional interpretation.
- VIII. The proposal does not violate the guidelines on acceptable use of A.I.
 - A.I. tools cannot be used for idea generation. Proposals that use A.I. tools to develop a research question, hypothesis, or experimental plan will be disqualified.
 - A.I. tools cannot be used to generate answers to the application questions. Proposals that use A.I. tools to write the text of the application will be disqualified.
 - A.I. tools can be used as a research aid to gather background information, summarize recent discoveries, and create your citation list.