



SAA Gene Editing Innovation Grant

Introduction:

Swim Across America (SAA) is a 501c3 non-profit organization. SAA was founded in 1987 with a mission of funding cancer research and patient programs. Our ability to award grants to our mission comes from survivors and volunteers who participate in our charity swims and other programs we host. We additionally receive donations from individuals and families who want to fund grants through our Cancer Innovation Fund (CIF). Since our establishment, we have awarded \$100M to cancer research and patient programs.

SAA is awarding two (2) research grants focused on gene and base editing techniques. We are seeking applications for review and consideration. Research proposals should focus on application and/or improvement of current gene editing techniques in advancing cancer research including early detection, diagnostics, and treatments including targeted therapies, immunotherapies, and cellular therapies.

Background:

CRISPR-Cas, Gene, and Base editing have been applied in varying degrees to all aspects of cancer research: basic cancer biology, carcinogenesis, early detection, target identification, diagnostics. These techniques have directly or indirectly contributed to discovering, designing, and improving many recent advances in cancer such as targeted therapies, immunotherapy, CAR-T cell therapy, early/minimal residual disease detection, diagnostics and cancer vaccines.

Even when advances have been made in targeted therapies, immunotherapy, or CAR-T therapy, development of resistance, lack of persistence, and exhaustion have limited those gains. Gene editing has been applied experimentally to better understand and eventually overcome these limitations. Of concern, however, are the real off-target effects, varying sensitivities, and specificities of identifying these effects, with technical and economical limitations that prevent standardized, validated methods to promote wider clinical application.

Current methods to detect off-target activity of CRISPR-Cas and other gene editing systems are rarely compared to one another. No method has been validated and approved for clinical use. A major challenge is to develop a consensus method that can sensitively, rapidly, and cost-effectively detect off-targets effects in vivo/ex vivo.



Objectives:

The research proposals should focus on the use of CRISPR-Cas and other gene/base editing techniques to improve cancer diagnostics and therapies, including:

- Defining novel pathways and targets
- Developing new cancer models
- Improving current cancer therapies
- Advancing translational research into cancer diagnostics and therapies
- Demonstrating the efficiency, safety (i.e. reduced off-target effects) and applicability of techniques in advancing towards more generally applicable/validated techniques for the general cancer research community.

Timeline:

- The RFP will be shared with SAA beneficiary institutions that have an active Memo of Understanding (MOU).
- To apply, institutions must submit a Letter of Intent (LOI) by May 15, 2024.
- LOIs that are selected to submit a formal application will be notified by June 15.
- Full proposals will be due by September 15, 2024.
- SAA peer review will conclude by November 30, 2024.
- Grant announcements will be made by December 31, 2024.
- SAA will require in-person and/or zoom progress reports during the grant cycle.

Eligibility Criteria:

- Only SAA beneficiaries with an active MOU are eligible to apply.
- Principal Investigator must have a MD, PhD, MD/PhD or equivalent degree and a full-time academic appointment at the Assistant Professor level or higher.
- The research group must have sufficient expertise in gene editing at the start of the proposed project. The grant is not designed to assist in developing new users of the gene editing techniques.

Budget:

- The grant will be \$450K over twenty-four months.
- A budget will be required to submit with the proposal.
- 0% indirect cost per SAA grant policy and in our MOU.



Evaluation Criteria:

SAA will award two (2) grants based on the following criteria:

- Importance of the Research: Significance of the specific aims to gene editing cancer research and potential for the research to improve cancer diagnostics and treatment based on CRISPR-Cas and gene/base editing techniques
- Approach and Feasibility: Appropriateness of the methodology and timeframe of the project (the grant will be for twenty-four months).
- Investigator and Resources: Evidence of the investigators' potential to drive innovation in gene editing cancer research and demonstration of adequate resources available to the applicant for the project.

Letter of Intent application will request the following information:

- SAA Beneficiary Name
- Researcher Name & Email
- Title of Project
- Abstract (limit 250 words)
- Research Design and Methods (one page, limit 2 specific aims)
- Key Personnel (250 words)
- NIH Biosketch of Principal Investigator (limit 5 pages)

LOIs may be submitted by May 15, 2024 via [this weblink](#). The LOI will be reviewed by the SAA Research and Grants Committee.

Investigators selected to submit full proposals will be required to submit their proposals through the Survey Monkey Apply application.

If you have any questions regarding this opportunity, please contact Kathy Denton, kathy@swimacrossamerica.org.