Regenerative Medicine Minnesota
Translational Research Award Program

APPLICATIONS DUE 3/10/2023

Objective of Translational Research Awards

The objective of the Regenerative Medicine Minnesota (RMM) Translational Research Award program is to support the development of promising new stem cell-based or genetic therapy technologies that could be translated to enable broad use and ultimately, improve patient care. Projects funded through this program should propose the development of the following types of technologies:

- Stem cell-based or genetic therapy therapeutic candidates
- Diagnostics (including medical imaging agents) based on stem cells, or critical for stem cell-based or genetic therapy development or use
- Medical devices (non-diagnostic) for a stem cell-based therapy or critical for stem cell-based or genetic therapy development or use
- Novel tools that addresses a critical bottleneck to the discovery or development of stem cell-based or genetic therapy
- Novel stem cell based tools such as reprogrammed cells, organoids, tissues and animal models for use in the development of new drugs and devices
- New cells (e.g., neurons from iPSCs, organoids, and humanized mouse and pig models) to be developed as products for use in research and preclinical work

Award Information

What is the award amount and duration?

RMM will fund total (direct and indirect) project costs of up to $400,000 for up to two years. Project costs must be adequately justified and are subject to adjustment prior to the issuance of an award.

How will the funds be awarded?

An RMM award is a formal contract that defines the terms and conditions of an award and documents the commitment of the funds from RMM. Projects will be monitored by RMM for progress and adherence to the project milestones, timeline and budget. If at any time RMM determines that a project is not complying with the terms of the program, or is unable to advance the project, a project may be closed and the unused funds returned to RMM.

Costs resulting from a delay or failure to meet milestones will be the sole responsibility of the recipient. Successful applicants will have thoughtfully accounted for foreseeable project risks and developed contingency plans that do not involve additional funding from RMM.

What activities will RMM support?

RMM has special interest in broadening the portfolio of research that can help relieve chronic, genetic, and/or rare disorders that impact patients and health care costs in Minnesota.

RMM funds will support activities under this opportunity including, but not limited to:

Activities that will lead to selection of a novel candidate therapeutic, diagnostic, medical device, or tool ready for translation to enable broad use and ultimately, improve patient care including:

- Studies to further characterize candidate biomarkers for development into a diagnostic test

- Developing and implementing assays to identify/test/characterize candidate (or prototype) therapeutic, device, diagnostic test, tool/technology
- Feasibility and initial reproducibility assessment
- Proof of concept studies with candidate; for non-stem cell-based candidates (e.g., certain devices, diagnostic tests, tools), proof of concept testing with human stem, progenitor, directly reprogrammed cells, or relevant human somatic cells targeted by a genetic therapy
- Developing Target Product Profile (Product Concept Document) for candidate therapeutic, device, diagnostic test or tool
- Preparation for and conduct of stage appropriate regulatory meetings (e.g., for stem cell-based cell therapeutic candidates – an INTERACT meeting)
- Translational activities necessary for advancement to clinical study or end use for a stem cell-based therapy, device, diagnostic or tool
- All activities necessary for the conduct and completion of IND-enabling activities necessary for the filing of a single IND or IDE with the FDA to initiate a clinical trial with a single therapeutic candidate
- Product development activities appropriate to support the IND/IDE filing and the resulting clinical trial
- Manufacturing of the therapeutic candidate to support IND/IDE-enabling studies or to support the intended clinical trial(s)

RMM resources cannot be used to support the following activities under this opportunity:

- RMM funding is intended to support research or advance stem-cell based therapies that require human stem/progenitor cells or directly reprogrammed cells. Projects without a strong rationale for the unique necessity of these cells to achieve the project deliverable will not be considered for funding.
- Projects focused primarily on biomarker discovery are eligible for funding through the RMM Discovery Science Award program and, therefore, do not qualify for RMM Translational Science Award program funding.

Eligibility

What types of projects are eligible for funding?

To be eligible, the proposed project must satisfy the following requirements:

(1) The applicant must propose studies for a new technology that is uniquely enabled by human stem cells or uniquely enabling for the advancement of human stem cell-based or genetic therapies as follows:
   a. Therapeutic Candidate
      i. That is a cell therapy where human stem cells or progenitor cells (collectively "stem cells") either compose the therapy or are used to manufacture the cell therapy.
      ii. That is a genetic therapy approach (1) that targets a human somatic cell for its therapeutic effect, AND (2) is intended to replace, regenerate, or repair the function of aged, diseased, damaged, or defective cells, tissues, and/or organs.
      iii. That acts on or is dependent on endogenous human stem cells for its therapeutic effect, that modifies a stem cell therapy, OR where a human stem cell is necessary to manufacture the therapy (e.g., extracellular vesicles).
      iv. Where human stem cells are uniquely required for candidate identification and testing.
   b. Device, Diagnostic, Tool

i. Discovery research for novel human stem/progenitor cell-based diagnostic, assay or tool candidate that can be used to discovery, advance, monitor, or evaluate new therapies, OR
ii. Discovery research for a novel technology candidate (a medical device, diagnostic test, tool) that addresses a critical bottleneck to the discovery, development or use of stem cell-based or genetic therapies where the proposed activities include proof of concept testing with human stem cells or relevant human somatic cells targeted by a genetic therapy.

(2) For all projects developing a product candidate that includes allogeneic (donor-derived) cells:

a. The cell source (tissue or cell line) proposed for use must have been consented by the donor for intended use and for clinical development and commercial sale.

b. The cells must meet the Good Tissue Practices (GTP) requirements for donor eligibility (21 CFR 1271 (subpart C)), or there is a plan in place to address the GTP requirements.

(3) The applicant must be ready to initiate work on the funded project within 90 days of approval.

(4) Co-funding is not required.

If the project does, however, require funding over and above that which RMM provides, documentation demonstrating the commitment of funds to cover the proposed co-funding amount must be provided at the time of application submission.

(5) In keeping with the spirit of this program, the funds should remain and the work be performed in Minnesota. Exceptions may be made for materials or services not available within the state, and such exceptions should be noted in the budget.

(6) Partnerships with other institutions are allowed.

Collaborations may include research subcontracts or consulting agreements with laboratories, universities, medical centers, industry partners, etc. in the state of Minnesota. If planning to use a portion of requested funds to support a project at another institution, such as the University of Minnesota or Mayo Clinic, then the application must include that institution's indirect cost rate. The submitted budget should reflect this and include separate indirect costs for the primary organization and any other institution with a different indirect rate. Other institution budgets should be shown separately.

(7) Application must be accurate and complete

Who can apply for RMM funding?

(1) Only Minnesota-based academic institutions and small-businesses performing scientific and/or medical research in the state of Minnesota are eligible for this opportunity. Small businesses (the "Entity") must be based, owned (≥50%), and operating in the state of Minnesota. For this definition, a small business must have at least 2 and no more than 100 affiliated full- or part-time employees. Entities must be registered with the state of Minnesota's Secretary of State Office (http://www.sos.state.mn.us/business-liens) prior to the application being submitted.

(2) The PI and applicant organization are responsible for being in compliance with federal, state, and institutional research regulations at all times during the funding period, including having active approvals from all regulatory agencies (e.g., Institutional Review Board). A copy of the approval document(s) must be available upon request.

(3) Applicant must be in "good standing"

The PI, key personnel named in the application and any business leadership of small businesses must not have been convicted of, or are under investigation for, crimes involving fraud/misappropriation or research misconduct. The performance of applicants previously supported through the RMM program will be taken into account in funding decisions.

Who can serve as the Principal Investigator (PI)?

RMM encourages early stage investigators from diverse backgrounds to apply. To be eligible, the PI must:

- Be an employee of the applicant organization.
- Be authorized by the applicant organization to conduct the research and assume the responsibilities of the PI.
- Applications can have **only one** PI.
- PIs can only hold one RMM award at a time.
- Not currently have another application pending review or approval under this funding opportunity.
- Not currently have another application that is substantially similar or has overlapping activities pending review or approval under any RMM opportunity.

Schedule and Deadlines

Applications Due	March 10, 2023 at 5 pm
Application Review	March through May 2023
Awards Announced	Late May 2023
Earliest Start Date	July 1, 2023

Application Components and Submission

How does one apply?

Applications must be completed and submitted online at https://umnodat.inforeadv4.com/#competitionDetail/1893389

Any prospective PI must create a login in the system to access application materials and apply. A PI may submit only one RMM application in a given review cycle.

The main components of the application include the following key sections:

1. **Principal Investigator Information** (Responsible Party; there can only be one principal investigator)
2. **Institution Information** (responsible for receiving and disbursing grant funds)
3. **Application Preview Page/Abstract:** This section will be utilized by reviewers to prescreen applications and select a subset to move forward to the next stage of the review process.
   a. Project Summary
   b. Disease Indication or Area of Impact
   c. Vision for Progression
4. **Resubmission Statement:** If this application is a resubmission from previous RMM review cycles, the applicant will provide a brief statement on how this application addresses the previous reviewers' critiques.
5. **Description of Future Product:** Provide a brief description of the future product that you envision your project will lead to.

6. **Statement of Significance and Impact:** Description of how the proposed product candidate, if successful, could impact an unmet medical need, and/or accelerate or increase the likelihood of successfully developing a stem cell technology or genetic therapy that significantly improves patient care, or how it could address a critical bottleneck to the discovery, development, or use of stem cell-based therapies.
7. **Objective and Milestones:** A concise description of the project objective and project milestones, and criteria for success.
8. **Scientific Rationale:** Explanation of how published and preliminary research findings support the translation of the proposed product.
9. **Research Plan:** A concise but detailed description of the methods and techniques to be employed to achieve milestones, and potential pitfalls and alternative approaches.
10. **Data Sharing and Management Plan:** A description of the proposed plan to share and manage data generated from the project.
11. **Timeline:** Activities-based timeline for achieving project milestones.
12. **Principal Investigator and Team:** A description of the PI and team's roles, expertise, and experience.
13. **Resources and Environment:** A brief description of the resources available to the project and environment.
14. **New Jobs:** An estimate of the number of new jobs that will be created with this funding (if awarded) and plan for sustaining these jobs after the award has ended.
15. **Intellectual Property:** A brief summary of any intellectual property related to the proposed project, including protection status and ownership/assignment.
16. **References**
17. **Budget Information:** Completed budget form (template provided in online application portal).
    a. **Direct** costs requested
    b. **Indirect** costs requested (see: https://oamp.od.nih.gov/dfas/indirect-cost-branch/indirect-cost-submission/indirect-cost-definition-and-example. These should be included in the budget at the established NIH-negotiated rate or, in the absence of a federally-negotiated rate, at 10 %.)
    c. **Total combined** costs requested (must be ≤ $200,000/year; ≤ $400,000 total)
    d. Start date requested (between July 1, 2023 and July 30, 2023)
    e. Length of award (Up to 2 years)
18. **Biosketches/CVs for Key Personnel**

Application Review Information

What criteria are used to evaluate the applications?

1) Does the project hold the necessary significance and potential for impact?
   a. Is the proposed technology likely to result in a candidate that could impact an unmet medical need?
   b. Would the expected candidate accelerate or increase the likelihood of successfully developing a stem cell technology or genetic therapy that significantly improves patient care or that addresses a critical bottleneck to the discovery, development, or use of stem cell-based or genetic therapies?

   c. Is the approach likely to provide an improvement of the standard of care for the intended patient population?
   d. Has the applicant presented thoughtful options for progression from successful candidate discovery to translation?
   e. To what extent does the project address chronic disorders that impact patients and health care costs in Minnesota?

2) *Is the rationale sound?*
   a. Is the proposed project based on sound scientific rationale?
   b. Are preliminary data compelling and supportive of the proposed project?
   c. Is the project uniquely enabled by human stem/progenitor cells or directly reprogrammed cells, or uniquely enabling for the advancement of stem-cell-based or genetic therapies?
   d. Do the data support the future translation of a product?
3) *Is the project well planned and designed?*
   a. Is the project appropriately planned and designed to achieve the expected outcome?
   b. For candidates that include allogeneic cell components, is the cell source likely to meet donor eligibility requirements and has it been appropriately consented for intended use?
   c. Is this a well-constructed, quality project?
   d. Are potential pitfalls identified and alternative approaches presented?
4) *Is the project feasible?*
   a. Are the proposed milestones and expected project outcome logical and likely to be achieved within the proposed timeline?
   b. Is the proposed team appropriately qualified and staffed?
   c. Does the team have access to all the necessary resources to conduct the proposed activities?
   d. Does the team have a viable contingency plan to manage risks and delay?
   e. Is the budget appropriate for the research proposed?

What is the process for evaluating an application?

Pre-submission Consultation

RMM is committed to helping develop promising stem cell-based technologies by partnering with researchers. Therefore, prospective applicants are encouraged to contact RMM with questions or to discuss their project's eligibility before applying.

Eligibility Review

RMM will assess whether the proposed project meets eligibility requirements sought under this program. If RMM determines, in its sole discretion, that an application does not meet the eligibility requirements of the program or that the submitted application is incomplete or contains false or inaccurate information, RMM will notify the applicant of its decision and, if RMM deems it is appropriate, allow an opportunity to remedy. If RMM deems it inappropriate, or if the applicant does not remedy the error in a timely manner, RMM will terminate all further action on the application.

Scientific Review

The scientific merit of each application will be assessed by RMM Board members and scientific reviewers from outside Minnesota. Applications will be evaluated according to scientific and technical merit, applying the review criteria described above. The review will be conducted in three stages. In the first stage, RMM program leadership and Board members will conduct a pre-review of applications to identify applications that the Board believes are most responsive to the funding opportunity and hold the most potential for impact. Since the selection process is focused on quickly identifying promising proposals rather than identifying deficiencies in applications, no reviewer comments are collected at this stage.

Selected applications advance to the second stage of review, which involves assignment to specific scientific reviewers outside of Minnesota. Applications are scored according to the review criteria and review comments are collected and discussed by the Application Review Committee, which is made up of the RMM Board and RMM program leadership.

In the final stage of the review, all applications will undergo a review by the Application Review Committee in which applications of high scientific and technical merit will be carefully scrutinized to allocate the funds available to support the award mechanism as wisely as possible. Applications that have the highest potential to help achieve the vision and goals of the RMM program (programmatic relevance, portfolio balance, adherence to the intent of the mechanism) will be selected for funding. Although the evaluations of the scientific reviewers are a key factor, the additional consideration of programmatic intent and portfolio balances means that applications are not funded using an established "pay line" based solely on a numeric scoring system.

Consideration of Past RMM Award Information (If Applicable)

RMM may consider information from a previously funded and related RMM award as part of its review. This includes but is not limited to achievement of specific milestones, data, and outcomes for a related RMM award or awards. A “related RMM award” includes: (1) an award for which the applicant PI served as the PI, a co-investigator, or otherwise substantially participated in the conduct of the award; (2) an award involving the same research project or product; or (3) and award that includes overlapping team members.

Confidentiality and Data Privacy

RMM’s confidentiality and conflict screening policies apply to everyone who will have access to applications or who will participate in any review meeting in which confidential information is discussed. Through administration of the RMM program, the University is committed to protecting the information submitted in your proposal as allowed under state data privacy laws and University policy. Minnesota's Government Data Practices Act contains specific provisions on public grant data and protected trade secret information. In the application, you will be asked to identify specific sections that you believe qualify as your trade secret information (https://mn.gov/admin/data-practices/data/types/tradesecrets/).

Award Administration

Issuance of Award

An RMM award is issued through the Sponsored Projects Office at the University of Minnesota, via a Notice of Grant Award (NOGA) and/or Subaward Contract document, which is a formal contract that defines the terms and conditions of an award and documents the commitment of the funds from RMM. RMM reserves the right to modify or establish funded project activities, milestones (both technical and financial), success criteria, timelines, and budgets prior to issuance of a NOGA/Subaward Contract. RMM reserves the right to review whether an applicant has satisfied the eligibility criteria set forth in this program announcement and, if RMM determines that an applicant has failed to satisfy one or more criteria, to refrain from issuing a NOGA/Subaward Contract.

Payments and Reporting

Payments are made on a cost-reimbursement basis. For University awards, this is done automatically up to the award amount. For non-University awardees, invoices must be submitted per the contract document. Projects will be monitored by RMM for progress and adherence to the project milestones, timeline and budget. If at any time RMM determines that a project is not complying with the terms of the program, or is unable to advance the project, a project may be closed and the unused funds returned to RMM.

Grantees will be required to provide periodic written progress and financial reports to RMM. RMM will partner with the grantee to foster the success of the project through access to both internal experts and the ability to enlist the help of external subject matter experts when needed. Grantees will have ongoing communication with the RMM Program Manager throughout the duration of the award.

Award Conditions

The PI is responsible for being in compliance with federal, state, and institutional research regulations at all times during the funding period, including having active approvals from all regulatory agencies (e.g., Institutional Animal Care and Use Committee). A copy of the approval document(s) must be available upon request.

If the PI of the grant leaves the institution, a request for change in PI may be submitted for consideration. If no request is submitted or the request is denied, unused funds will revert to RMM.

If the PI of the grant is unable to use the funds for the research as proposed in application, funds will revert to RMM.

In keeping with the spirit of the awards, the funds should remain and the work be performed in Minnesota. Exceptions may be made for materials or services not available within the state, and such exceptions should be noted in the budget.

Intellectual Property

Inventions arising from RMM-funded projects are required to be reported to RMM. As with federal funding, RMM permits businesses and nonprofits (including universities) to retain ownership of the inventions, while also giving the Minnesota state government the license to practice the subject invention. In turn, the organizations are expected to file for patent protection and to ensure commercialization for the benefit of public health.

No-Cost Extensions

Timeline progress on funded projects is of critical importance to RMM. Therefore, RMM will consider a No-Cost Extension (NCE) request, submitted at least 30 days before the project end date. Such a request should properly justify how such an extension will advance the project towards its expected outcome, but Grantees should not assume RMM will approve a NCE request.

Contacts

For questions not answered in the RFP, email RegenMedMN@gmail.com.