Multiple Myeloma Research Foundation
New RFA Announcement:

MMRF Myeloma Omics Initiative

Program Guidelines

2024 MMRF MYELOMA OMICS INITIATIVE

REQUEST FOR APPLICATIONS

1. FUNDING OPPORTUNITY DESCRIPTION

Purpose:

The Multiple Myeloma Research Foundation (MMRF) is pleased to announce a new Clinical Translational Research Program, the MMRF Myeloma Omics Initiative. This initiative will provide successful applicant access to state-of-the-art -omics platforms and analytical resources to analyze bone marrow and peripheral blood samples from patients enrolled in high-value clinical studies in multiple myeloma and precursor conditions.

Newly approved and investigational agents continue to enter the therapeutic ecosystem for multiple myeloma. This creates new challenges for clinicians who must incorporate or sequence these newer agents into current treatment regimens with proven therapies (and even supplant older, proven regimens). To best understand how to utilize and integrate newer agents into current regimens to maximize clinical benefit and determine which patient populations will achieve most benefit from a specific agent and/or regimens requires a deeper understanding of multiple myeloma and patient biology at the molecular and cellular level:

- From the initiation and evolution of malignant plasma cells through disease progression.
- The tumor intrinsic molecular events that drive clinical response and relapse or resistance.
- The host intrinsic biological processes that monitor and control malignant disease and the biological events that lead to the loss or dysregulation of these disease control processes.
- The impact of therapeutic intervention on tumor- and host-intrinsic processes and how alterations in these processes influence clinical response and relapse or resistance.

The MMRF is seeking applications from investigators or research teams that have patient-derived biological samples that might address any of these critical questions. The MMRF can provide researchers access to high-dimensional immune and genomics analytical platforms and the associated informatics support for correlative analyses. Applicants must be actively conducting, or have completed, high-value clinical trials in multiple myeloma or precursor conditions and have access to viable biosamples and sample derivatives from treated patients. Studies of particular interest include patients with baseline samples, with paired baseline and response and/or relapse samples, and/or samples collected at initiation of one (line of) therapy and another prior to initiation of the next subsequent therapy. Interesting potential treatments include but are not limited to:

- FDA approved and novel immune agents (e.g., monoclonal antibodies, bi-specific antibodies, T-cell engagers) as monotherapy and/or in combination or in sequence with standard-of-care agents.
- FDA approved and novel cellular immune therapies (e.g., CAR-T, CAR-NK, tumor vaccines) as monotherapy and/or in combination or in sequence with standard-of-care agents.

- FDA approved and novel targeted therapies as monotherapy and/or in combination or in sequence with standard-of-care agents.

The MMRF Myeloma Omics Initiative will provide successful applicants access to advanced single cell genomic and proteomic platforms and bioinformatics resources through the MMRF's collaborative network of academic partner laboratories. Successful applicants will be partnered with the appropriate technical and analytical expertise to interrogate samples and answer critical study-related questions. There will be no financial cost to successful applicants to access these resources.

Background:

Triplet and quadruplet treatment strategies have provided significant clinical benefit for many myeloma patients. Even as myeloma patients relapse or become refractory to these combination therapies, newer immune therapies (e.g., CAR-T, T-cell engagers) continue to provide clinicians with additional treatment options that may provide durable clinical benefit to some of these patients.

The development and approval of newer, more advanced therapeutic modalities has expanded treatment options for patients. Additional agents including next generation IMiDs (CelMODs), therapeutic antibodies, bi-specific antibodies, and immune cell modulators (e.g., T-cell engagers, CAR T-cells and personalized tumor vaccines) are all under investigation for multiple myeloma. This increasingly complex therapeutic landscape creates significant challenges for clinicians: to understand when and how to effectively integrate these next-generation agents into treatment regimens to maximize clinical benefit and, most importantly, identify which patient populations will receive the most benefit from specific therapies, combinations, and treatment regimens.

As our understanding of the biological mechanisms and factors that determine susceptibility or resistance to certain modes of therapy has grown, there is a strong likelihood that the most effective anti-myeloma strategy will require the sequencing of immune therapy with combinations of targeted or conventional cytotoxic agents, analogous to the current strategy of induction, transplant, and maintenance therapy. Maximizing clinical outcomes will require not only a detailed understanding of the interactions between tumor cells and their microenvironment, but how therapy alters these interactions, and how changes in these interactions can contribute to clinical response or drive resistance.

To meet this challenge, the MMRF Myeloma Omics Initiative will support translational and correlative studies designed to interrogate drug-mediated modulation of the tumor and non-tumor compartments and how modulation of these biological compartments impacts therapeutic outcomes. Of priority interest are studies evaluating immune and cellular therapies, either as single agents or in combination or sequenced with current standard regimens.

Research Requirements and Timing:

Applicants must be actively conducting, or have recently completed, high-value clinical trials studies for the treatment of multiple myeloma. These studies should evaluate both approved and novel agents either as single agents, in combination with standard agents, or their sequential administration. A detailed description of the application package is provided in Section 6.

The MMRF Myeloma Omics Initiative program will open January 2nd, 2024 and will close on December 31st, 2025. Applications can be submitted to MMRF anytime during this 2-year window. Key dates are described in the following table:

Program Event	Application Cycle 1
RFA opens	January 2nd, 2024
RFA closes	December 31st, 2025
Applicant Notification	Within 90 days of receipt of application
Contracting Period	Within 60 days of award notification

3. ELIGIBILITY

Applications for this RFA are being solicited from investigators holding a MD, PhD or equivalent degrees with faculty appointment at accredited academic institutions in North America and worldwide.

4. REVIEW PROCESS

All applications for the MMRF Myeloma Omics Initiative will be reviewed by the MMRF's clinical and scientific staff scientists. Applications may be sent for external review as needed. Applications will be evaluated for:

- Study concept and design.
- Correlative plan including sample availability.
- Bioanalytical needs.
- Expertise of the applicant(s).
- Probability of meaningful results from the proposed research.
- Potential contribution of the research in advancing the research communities understanding of myeloma disease biology, and its ability to advance treatment of multiple myeloma and precursor conditions.

All candidates will be notified of the outcome of their application by MMRF Research staff.

5. FUNDS AVAILABLE

The MMRF will provide no-cost access to advanced high-dimensional analytical and bioinformatic resources through the MMRF's network of academic partner laboratories. Successful applicants will collaborate with one or more of the MMRF's partner laboratories to conduct detailed analysis of samples provided by the applicant. The MMRF will be responsible for the costs for all assays and analytical or bioinformatics support conducted at the MMRF partner laboratories. MMRF will provide compensation of up to $50,000 for reasonable operational costs incurred for the collection, storage, and shipment of samples to these analytical laboratories.

6. APPLICATION PROCESS

Applications should be submitted directly to the MMRF. All applications should include the following information. Full application instructions are provided at the end of this document.

Required information:

- Clinical study title, design, number of subjects and NCT identifier.
- Study investigators and institutional affiliations, including study sub-sites and contact information.
- The translational study hypothesis, including Scientific and Lay abstracts.
- Correlative Study Plan including recommended assays and potential analyses.
- Technical/Analytical requirements.
- Inventory of currently available study samples and timepoints, projected final sample numbers (if study not completed), and sample and derivative types and quantities.
- Study status (completed or in progress).
- Copy of IRB Approval.
- Copy of the study Informed Consent Form (ICF).
- Biohazard Statement.
- Institutional approvals and assurances.

Applications should not exceed 25 pages in total. All applications should be sent via secure e-mail to Mark Hamilton, PhD (hamiltonm@themmrf.org).

For all scientific and administrative inquiries contact:

Mark Hamilton, Ph.D.
Multiple Myeloma Research Foundation
383 Main Avenue, 5th Floor
Norwalk, CT 06851
Tel. (203) 652-0233
Email: hamiltonm@themmrf.org

7. CONTRACTING AND TERMS OF AWARD:

Successful applicants for the Myeloma Omics Initiative will be issued with a Notice of Award by MMRF. Successful applicant(s) will provide the MMRF with the name and contact information for a legal representative authorized to negotiate with the MMRF on behalf of their institution. The MMRF reserves the right to withdraw an award if the parties fail to agree to terms within sixty (60**)** days of the Notice of Award.

Failure of applicants and/or their sponsoring institutions to adhere to any of the terms and conditions in the contract shall constitute sufficient grounds for the MMRF, in its discretion, to withhold support until the deficiency is corrected. If the deficiency cannot be corrected, the MMRF or the sponsoring institution may terminate the contract upon giving thirty (60) days written notice.

The following terms and conditions are not negotiable. By submitting an application, you are acknowledging that if your application is successful, these terms will need to be approved. MMRF recommends that applicants speak with their grants and contracting offices prior to applying.

Overhead Rate	Shall not exceed 10%
Costs	**Costs.** The Principal Investigator and the Sponsoring Institution hereby agree to use Grant Funds as set forth in the Approved Budget. Except as specifically and expressly otherwise provided in the Approved Budget, all Grant Funds shall be used according to terms set forth in this Section 4. **(a) Permissible Costs.** (i) Salary for the Principal Investigator that has faculty appointments (i.e. Instructor, Professor, etc.) with the following restrictions: (1) The percent salary (with fringe benefits) cannot exceed the percent effort set forth in the Approved Budget. (2) Notwithstanding the above, in no event shall the base salary exceed the annual federal capitation imposed by the National Institutes of Health. (ii) Salaries for the Principal Investigator or professional staff that do not have faculty appointments and technical assistants as necessary with the following restriction: (1) The percent salary (with fringe benefits) cannot exceed the percent effort set forth in the Approved Budget.

(iii) Salary of other participants in the Grant Research that have faculty appointments (i.e. Instructor, Professor, etc.) with the following restriction

(1) The percent salary (with fringe benefits) cannot exceed the percent effort set forth in the Approved Budget.

(iv) Minimal but essential permanent equipment which is directly relevant to the Grant Research.

(v) Publication costs.

(vi) Expendable supplies.

(vii) Other expenses directly related to the conduct of Grant Research.

(viii) Travel to attend scientific meetings that are directly related to the Grant Research. Such travel arrangements shall be subject to the prior written approval of the MMRF and shall not exceed one thousand dollars ($1,000).

(ix) Indirect operating costs incurred by the Sponsoring Institution during the Grant Term in an amount not to exceed ten percent (10%) of the total costs.

(b) <u>Impermissible Costs.</u>

(i) Construction, alteration, maintenance or rental of buildings or building space.

(ii) Computer equipment, office equipment and furniture.

(iii) Dues for membership in scientific societies.

(iv) Office supplies including, but not limited to, mail/postage costs, copying costs, telephone, fax, modem, DSL or other similar line costs.

(v) Tuition, books and journals.

(vi) Any other costs not specifically permitted by Section (a).

Publicity and Publication	**(a)** **Announcement and MMRF Publication of Award.** MMRF reserves the right to publicly announce that it has provided Sponsoring Institution, Principal Investigator, Subsites, and/or Subsite investigator a grant award and the amount of the grant. MMRF will ask for an abstract of the Grant Research to be conducted. Sponsoring Institution shall obtain any internal approvals necessary to grant MMRF the right to use of its name, logo, and likeness prior to execution of this Grant Agreement. Sponsoring Institution shall not unreasonably withhold such approval. **(b)** **Program Marketing.** The Sponsoring Institution and Principal Investigator hereby, as a condition to receiving Grant Funds, agree to participate in publicity activities, including, but not limited to, being interviewed for MMRF newsletters, press releases, and video as requested by the MMRF as well as acknowledge the grant award in Sponsoring Institution's donor marketing materials. **(c)** **Prior Notification of Promotion, Presentation or Exhibition.** MMRF shall receive written notice from Private Investigator at least thirty (30) days prior to any publication, exhibition or presentation relating to Grant Information (which notification shall include a copy of the materials intended for release, as well as the details of the information to be disclosed and the time, place and manner of such disclosure). **(d)** **Right to Publish.** The Sponsoring Institution and the Principal Investigator shall have the right to publish, present or otherwise disclose Grant Information subject to: (i) *MMRF Review for Possible Patentable Subject Matter.* The Principal Investigator will provide MMRF written notice at least thirty (30) days prior to any advertising, promotion, publication, exhibition or presentation relating to Grant Information as well as advance copies of any Grant Information submitted for publication, exhibit or presentation during the Grant Term (which notification shall include the details of the information to be disclosed and the time, place and manner of such disclosure). (ii) *Credits.* All published works, including, but not limited to, on-line publications, exhibitions, presentations, marketing materials or other disclosures of Grant Information or summaries thereof by Sponsoring Institution or Principal Investigator must display the designation, "Supported by a Research Grant from the Multiple Myeloma Research Foundation (MMRF)."

	(e) **<u>MMRF Publication of Results.</u>** MMRF shall have the right to include published Grant Information results on its website or in other MMRF materials.
Data Sharing	MMRF is hereby granted an irrevocable, worldwide, non-exclusive, royalty free, sublicensable license to the de-identified data and results generated in the performance of Grant Research to include in the MMRF data repository. Sponsoring Institution and Principal Investigator shall provide de-identified experimental procedures, data, and results of the Grant Research to MMRF in digital format (as outlined in Exhibit G *Data Requirements* and Exhibit H *Data Dictionary)* for incorporation into data repository along with the Final Report. MMRF may incorporate into data repository de-identified experimental procedures, data, and results of the Grant Research received with the Final Report at the earlier of eighteen (18) months from receipt, or upon publication of the Grant Research by Sponsoring Institution or Principal Investigator. Sponsoring Institution and Principal Investigator agree that once MMRF has incorporated such de-identified experimental procedures, data, and results into the data repository, MMRF will have the unrestricted right to use, distribute, share, and publish the de-identified experimental procedures, data, and results.
Invention Definition	Invention shall mean any discovery, invention, material, method, process, product, biological material, program, trade secret, software, or us e, that is or may be patentable, that is conceived or reduced to practice in the course of Grant Research. Ownership of an Invention shall track inventorship, and inventorship of Inventions shall be determined according to United States patent law.
Disclosure and Assignment of Invention by Principal Investigator	The Sponsoring Institution shall require the Principal Investigator and all other persons engaged in the Grant Research to promptly: **1)** disclose all Inventions to the Office of Technology (or the equivalent) of the Sponsoring Institution; **2)** assign to the Sponsoring Institution all of their rights, title, and interest in and to all Inventions which are conceived, discovered, or reduced to practice by such person during the course of the Grant Research at the Sponsoring Institution; **3)** require all such persons to cooperate fully with the Sponsoring Institution in pursuing legal protection for any Inventions or improvements thereto, including but not limited to providing assistance in filing and presenting any patent applications for or copyrights on such Inventions or improvements.
Reporting Inventions to MMRF	Institution and/or Principal Investigator shall report any invention or lack thereof to MMRF on an annual basis on or about April 30th. Notwithstanding the foregoing, all Inventions shall be reported to MMRF in writing within three (3) months after their disclosure to the Sponsoring Institution

Sponsoring Institution's Duty to Decide on Protection of Invention and Notify MMRF	Sponsoring Institution shall determine whether it will seek patent or other statutory protection for each Invention promptly after such Invention is disclosed to the Sponsoring Institution, and it shall promptly notify MMRF of its decision. Upon MMRF's request, Sponsoring Institution shall notify MMRF when documentation relating to the filing or assertion of rights have published and are publicly available.
Notice to MMRF of Possible Revenue-Generating Agreement	If the Sponsoring Institution contemplates entering into a license, assignment, or other revenue-generating agreement relating to the Invention, the Sponsoring Institution shall give MMRF written notice within thirty (30) days after execution.
Participation in Income	MMRF shall have the right to participate in the income derived from any Invention, unless MMRF explicitly waives such right in writing, and the parties hereby agree that no provision of the Agreement shall constitute such a waiver. This right to participate shall include the sharing of licensing fees and royalties and any other consideration derived from an Invention by Sponsoring Institution and/or Principal Investigator at a rate of twenty percent (20%) of net income up to a cap of five (5) times the grant amount funded by MMRF. MMRF's participation in income hereunder shall be paid on a calendar yearly basis and shall be accompanied by copies of all invoices sent by Sponsoring Institution to its licensees, assignees and/or transferees as the case may be. MMRF shall have the right to audit Sponsoring Institution's books with advance written notice and records no more frequently than one time per year to verify the payments hereunder, with the understanding that access to such information shall be limited by any obligations of confidentiality that the Sponsoring Institution has to its licensees, assignees or transferees.
Informed Consent	The Sponsoring Institution shall ensure that all applicable patient consent forms allow for data sharing in accordance with the data sharing requirements
Subsites	Institution will be responsible for subcontracting with any subsites ensuring that the terms of the subcontracts provide for the same terms and conditions as in the grant agreement between MMRF and Institution.

ABOUT THE MULTIPLE MYELOMA RESEARCH FOUNDATION (MMRF)

The Multiple Myeloma Research Foundation (MMRF) is the largest nonprofit in the world solely focused on accelerating a cure for each and every multiple myeloma patient. We drive the development and delivery of next-generation therapies, leverage data to identify optimal and more personalized treatment approaches and empower myeloma patients and the broader community with information and resources to extend their lives. Central to our mission is our commitment to advancing health equity so that all myeloma patients can benefit from the scientific and clinical advances we pursue. Since our inception, the MMRF has committed over $500 million for research, opened nearly 100 clinical trials, and helped bring 15+ FDA-approved therapies to market, which have tripled the life expectancy of myeloma patients. To learn more, visit www.themmrf.org.

APPLICATION GUIDELINES

Detailed instructions on how to create and submit an application for the MMRF Myeloma Omics Initiative are provided.

APPLICATION INSTRUCTIONS

GENERAL REQUIREMENTS:

- **Required Format:** Applications must be in English using single-spaced text, half-inch margins, using either Arial or Times New Roman 11 or 12 pt font. Page limitations must be observed for each section as described below.
- **Good Standing:** Applications will only be accepted from investigators who are currently in good standing with the MMRF. Applicants will automatically be considered to be in good standing unless they have failed to provide progress reports on prior MMRF-funded grants.

1) STUDY TITLE & NCT IDENTIFIER

2) **INVESTIGATOR(S) & AFFILIATION(S):** One page maximum.
   a) Lead investigator, co-investigators, investigator affiliations and contact information.

3) **STUDY SUMMARY:** One page maximum.
   a) Study Hypothesis driving the clinical and translational/correlative proposal.
   b) Overview of the clinical trial design.
   c) High-level description of the proposed clinical goals and correlative studies.
   d) Number of study subjects and samples/sample types available for analysis.

4) **PROJECT DESCRIPTION:** Five page maximum, exclusive of abstract, references, and appendices.
   a) **Scientific Abstract:** A brief description of the specific goals of the proposed Project in 250 words or less using technical language as necessary. The project hypothesis should be stated in the abstract.
   b) **Lay Abstract** A brief description of the project in 250 words or less using language that can be understood by individuals without a background in science or medicine.
   c) **Scientific and Clinical Background:** A concise summary of previous work and the preliminary data that informed the hypothesis and trial design.
   d) **Translational/Correlative Study Plan:** A concise research plan for translational or correlative studies and their rationale as to how they will address the study hypothesis.
   e) Technical And Analytical Requirements: Description of needed analytical platforms and resources to execute the translational/correlative plan,
   f) Study Sample Collections:
      i) Number of study subjects.
      ii) Inventory of study samples and timepoints.

iii) Inventory of sample types, sample derivatives and quantities.
iv) Study status (completed or in progress). For ongoing studies, please provide an estimated end-of-study date and timeline.

5) **APPENDIX:**
   a) Clinical Trial Synopsis: A copy of the trial concept in synopsis form, providing treatment plan, patient populations, and endpoints. Patient selection details, such as inclusion/exclusion criteria, special considerations including previous or concurrent medications, or dose escalation/safety evaluations, may be included in an appendix.
   b) Statement of Consent: All investigators who provide(d) samples for the study must submit a copy of their Institutional Review Board (IRB) approval for the original clinical study to the MMRF with the application. In addition, all applicants must provide a clean copy of the Informed Consent Form (ICF) used to enroll patients into their study and approving the use of their tissue samples for research purposes, unless consent is withdrawn.
      i) Only samples from study consented patients can be shared with the MMRF and its partner laboratories for analysis.
      ii) Please note: Failure to provide the requested IRB and ICF documentation will result in rejection of an application.
   c) **Biohazards:** The safety of the research personnel in the MMRF's partner laboratories is imperative. All applications must include a statement about potential biohazards and a description of safeguards where such hazards may be encountered by research or clinical staff involved in the study.
   d) **Other Research Support:** Other support is defined as any specific funds or resources, whether governmental, non-governmental or institutional, available to the Principal Investigator (and other key personnel named in the application) in direct support of their research. This should include active support and pending support. Information regarding active or pending sources of support available to the Principal Investigator (and other key personnel named in the application), whether related to this application or not, is an important part of the review and award process and must be included.

6) SUPPORTING INFORMATION, INCLUDING FIGURES AND TABLES:
   a) **Institutional Documents:**
      i) Institutional approval signature page
      ii) Lead Investigator and Co-Investigator Biosketches
      iii) Institutional assurances
      iv) Letters of collaboration from any academic and pharmaceutical partners
   b) **Supporting Materials** (Clinical Trials Synopsis, References, Figures and Tables):
      i) The clinical research protocol should be submitted as Appendix 1. Include IRB/Ethical Committee approval/compliance number or indicate pending and an anticipated approval date.
      ii) The Clinical Trial Synopsis, all publications referenced in the Project Description, and supporting Figures and Tables should be submitted but do not count against the six (6) page limit in Section F of the Project Description.
   c) **References:** No more than 10 key articles.