CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE

RFA 09-04: CIRM Research Leadership Awards

Revised and Reissued September 12, 2013

I. Purpose

The purpose of the CIRM Research Leadership Awards is to support robust and innovative stem cell research programs of the most promising researchers newly recruited to California. These awards will enable universities and research institutions to attract the very best stem cell scientists, with a focus on those who are early-to-mid career but have already established themselves as independent investigators and emerging national or international leaders in the stem cell field. They also will permit the recipients to pursue high-risk, high payoff, innovative studies that could not be adequately supported by other sources. The awardees will bolster California's efforts in stem cell research and further CIRM's mission to advance novel treatments and cures into medical practice.

II. Objectives

The primary objective of the CIRM Research Leadership Awards is to facilitate the recruitment to California of the most productive and promising early-to-mid career scientists in stem cell biology and regenerative medicine. These awards will provide investigators with the financial resources and investigative freedom to pursue significant, substantive, and transformative research programs. The awards are designed to provide an incentive for relocation to California and the financial resources to reestablish and accelerate an already burgeoning research program.

The CIRM Research Leadership Awards will support research in a wide variety of areas critical to the advancement of regenerative medicine. These include both fundamental studies elucidating key cellular and molecular mechanisms of pluripotent and progenitor stem cell biology as well as translational research focused on the development of innovative strategies and treatments towards cures for injury and disease. In funding a research program (in contrast to a specific project), the awards will afford investigators the opportunity to pursue creative approaches, test novel ideas, and attack the most challenging problems at the forefront of stem cell research.

III. Award Information

A. Funds Available (revision 9/12/13)

Under this revision of the Request for Applications (RFA) CIRM intends to commit additional funds of up to $23 million to support up to 4 awards. Applications will be accepted and reviewed during a single review cycle. Grants will be funded for up to 5 years, and a breakdown describing how funds may be allocated is included below (see C. Eligible Costs).

B. Conditions of Award

Applicant institutions may receive only one award over the term of this RFA. Given the urgency of CIRM's mission, approved applications should be initiated (grant start date set forth in issued and signed Notice of Grant Award) within 6 months of approval and authorization for funding by CIRM's governing board, the Independent Citizens' Oversight Committee. However, the President of CIRM upon request can approve exceptions to this deadline and delay award initiation by an additional 6 months (12 months total). At the time of the grant start date specified in the Notice of Grant Award (NGA), the PI must be fully appointed at the applicant institution. Additionally, awards are specific to a single Principal Investigator (PI) and institution; they cannot be transferred to an alternate PI or to another institution.

Recipients of a CIRM Research Leadership Award must devote a minimum of 75% of their time to research related to CIRM's mission, and at least 20% of their time must be dedicated to activities specifically supported by research funds provided through this award. The 75% commitment may include dedicated percent effort and participation as a PI or other role on other grants supported by CIRM or other agencies or organizations, provided the goals of those projects advance stem cell science and regenerative medicine. Although awardees may expend up to 25 percent of their total effort on clinical duties, teaching, service, or research unrelated to the stem cell field, the award cannot provide salary support for time devoted to these activities.

Awards approved after 10/1/13 will be made for up to ~~6~~ 5 years and are non-renewable. (revision 9/12/13)

Awards approved after 10/1/13 are not eligible for a No-Cost Extension (NCE) beyond the end of funded year 5. (revision 9/12/13)

C. Eligible Costs

Applicant institutions may request award funding in accordance with the following categories and limits (see section VII.B.5 for details).

1. PI Salary Support: up to a maximum of ~~$186,000~~ $198,900 per year plus fringe benefits. (revision 9/12/13)

2. Laboratory Operations: up to $300,000 per year (direct costs).

3. Laboratory Relocation: up to $25,000 (one time).

4. Equipment: up to $1,000,000 (over the life of the award). The amount awarded in this category must be matched 1:1 by the applicant institution. CIRM will permit the institutional match to include funds for both equipment and research facility renovation costs, as appropriate.

5. Indirect costs: 20% in accordance with CIRM policies and as specified in section VII (below).

6. Facilities costs: in accordance with CIRM policies as specified in the CIRM Grants Administration Policy (GAP).

~~Awarded funds may not be transferred between categories.(revision, 10/22/2010)~~

Equipment funds may not be transferred into other categories. (revision, 9/12/13).

IV. Eligibility

A. Institution Eligibility

Applicant Institutions must be California universities, medical centers, or non-profit research organizations. "Non-profit organization" means: (1) a governmental entity of the state of California; or (2) a legal entity that is tax exempt under Internal Revenue Code section 501(c)(3) and California Revenue and Taxation Code section 23701d. Applicant institutions must be in the process of recruiting the PI for a full time, independent faculty position or equivalent position at the time of submission. Institutions that have received one CIRM Research Leadership Award are not eligible to apply for additional awards.

B. Principal Investigator (PI) Eligibility

The PI must have an M.D., Ph.D. or equivalent degree. At the time of application the PI must:

- hold a full time position outside California.

- be undertaking a significant research program in stem cell science, preferably focused on pluripotent stem cells and progenitor cell types, of significance for regenerative medicine.

- have been an independent investigator for at least 3 years. Although there is no upper limit to the number of years that a candidate must have been an independent investigator, this award is targeted primarily to PIs who are at an early-to-mid stage of their careers (e.g. 3-10 years as an independent investigator). However, candidate experience and seniority should match programmatic and leadership needs of the applicant institution, including the need for more senior leadership.

- be under consideration for recruitment to a full time, independent faculty position (or equivalent position) at the applicant institution.

- be nominated for a CIRM Research Leadership Award by only a single institution (applicants will not be considered if nominated simultaneously by two California institutions).

V. Application and Evaluation Process

Applicant institutions and candidates must submit a single coordinated application for this award. Applications will be evaluated by the CIRM Grants Working Group (GWG), which is composed of fifteen scientific experts from outside California, seven patient advocate members of CIRM's governing board, the Independent Citizen's Oversight committee (ICOC), and the Chair of the governing board. The membership of the GWG can be found at http://www.cirm.ca.gov/board-and-meetings/grants-review-working-group-members. The composition of the ICOC can be viewed at http://www.cirm.ca.gov/board-and-meetings/our-governing-board. The fifteen scientists on the GWG will review the applications and score them according to the review criteria described in section VI below. CIRM's confidentiality and conflict screening rules will apply to everyone who will have access to the applications or participate in the review meeting, including CIRM staff and external reviewers. The GWG will make funding recommendations to the ICOC, which will make final funding decisions.

Applications received after 10/1/13 will be reviewed in a single review cycle (Review Cycle 14; described below in section VIII). (revision 9/12/13)

VI. Review Criteria

Applications will be evaluated in three areas: Research Vision and Plans, PI Accomplishments and Potential, and Institutional Commitment and Environment.

A. Research Vision and Plans

The PI's research vision and plans will be evaluated in two key areas: Significance and Innovation.

1. Significance. The PI's research program addresses important problems in stem cell biology or regenerative medicine. The proposed research is likely to advance the field (stem cells and regenerative medicine) significantly and substantially.

2. Innovation. The proposed research addresses areas that are new, unexplored, poorly understood or neglected by previous researchers and/or applies novel approaches to the study of outstanding, significant problems.

B. PI Accomplishments and Potential

The candidate's accomplishments will be evaluated in four key areas: research achievement, impact on the field, leadership, and independent assessment.

1. Research Achievement. The PI has successfully established an independent research program, has demonstrated substantial research productivity, and has published papers in high-profile journals. The candidate has secured significant extramural research funding as the PI.

2. Impact. The PI's research has already made seminal contributions to the field. The impact of this research has been recognized by others as demonstrated by awards received and/or by invitations to present at major international conferences or research seminars, to contribute review articles, and to participate in symposia and scientific meetings.

3. Leadership. The PI has gained prominence as an emerging or established leader in an important area or subfield of stem cell research. The PI has demonstrated leadership or potential for leadership through active participation in local, national and/or international scientific organizations.

4. Independent Assessment. Recognized leaders in the field acknowledge the PI's contributions, impact, and promise.

C. Institutional Commitment and Environment
Potential contributions of the applicant institution will be evaluated in two areas: Institutional Commitment and Research Environment.

1. Institutional Commitment. The applicant institution will make adequate commitments to the PI including appointment to a full-time faculty position (or equivalent), appropriate laboratory space and start-up funds, and adequate release time (as appropriate) to pursue a robust research agenda as outlined in the proposal. The institution will provide additional resources, equipment, or services to support the PI's research.

2. Research Environment. The institution will provide a supportive research environment including adequate core facilities, access to necessary technology platforms, and maintenance of a critical mass of other researchers (or plans for recruitment of additional faculty or fellows) whose research interests link to those of the candidate.

VII. Application Procedure

Applicant institutions must follow these instructions for submitting an application for the CIRM Research Leadership Awards. The applicant institution and the recruitment candidate (the Principal Investigator, PI) should collaborate on preparation of the application. The application should be assembled and submitted by an Authorized Executive Officer (AEO) who is an organizational official (e.g. Vice-Chancellor, Dean, etc.) who has the authority, or who has been delegated the authority, to nominate the institution's sole candidate for this award, hire the PI, and commit the organization's resources to support the PI's ongoing research program. The AEO cannot be a member or alternate member of the ICOC.

A. Application Components
A complete application for the CIRM Research Leadership Awards includes the following five parts:

Part A: Application Information Form (Adobe PDF template provided at http://www.cirm.ca.gov/RFA_09-04_application_Instructions).

Part B: Research Accomplishments and Plans (MS Word template provided at http://www.cirm.ca.gov/RFA_09-04_application_Instructions).

Part C: Curriculum vitae (CV) and Publication List for PI (MS Word template provided at http://www.cirm.ca.gov/RFA_09-04_application_Instructions).

Part D: Institutional Letter of Nomination and Commitment (No template provided).

Part E: External Letters of Reference (No template provided).

B. Application Sections

1. *Abstract (up to 3000 characters in Part A)*
   State the broad goals of the PI's research program. Identify key issues in stem cell biology or regenerative medicine that will be addressed by the proposed research. Summarize the overall research plans. Describe experimental approaches to be employed.

2. *Public Abstract (up to 3000 characters in Part A)*
   Briefly describe in lay language the proposed research and how it will, directly or indirectly, contribute to the development of diagnostics, tools or therapies. This Public Abstract will become public information; therefore, do not include proprietary or confidential information or information that could identify the candidate and applicant institution.

3. *Statement of Benefit to California (up to 3000 characters in Part A)*
   Describe in a few sentences how the proposed research will benefit the state of California and its citizens. This Statement of Benefit will become public information; therefore, do not include proprietary or confidential information or information that could identify the candidate and applicant institution.

4. *Other Research Support (included in Part A)*
   List all sources of support (current and pending) for the PI's research.

5. *Budget (included in Part A)*
   The definitive budget for successful applications will be finalized during Pre-funding Administrative Review (PFAR) in communication with CIRM staff. Applicants should provide all budget information requested in the budget section of the application form with the understanding that amounts in some categories may be tentative and subject to further review and modification. All allowable costs for research grants are detailed in the CIRM Grants Administration Policy (GAP, http://www.cirm.ca.gov/our-funding/stem-cell-regulations-governing-cirm-grants). Under this RFA, allowable costs include the following:

   - Salary for PI

   Salary support for the PI must be commensurate with the established salary structure of the applicant institution and be based on a full-time, 12-month staff appointment. The candidate must devote between 75-90% of his/her effort to research related to CIRM's mission. This award

will fund the candidate's salary up to that percent effort, to the extent not supported by funding from another source (i.e. duplicate compensation is not permitted). The maximum allowable would be ~~$186,000~~ $198,900, assuming 90% effort, based on CIRM's current salary reimbursement cap of ~~$207,000~~ $221,000. ~~Unexpended funds for PI salary cannot be carried forward or used for any other purpose~~. (revision 10/22/2010)

- Laboratory Operations

Expenditures in this category may include salaries and benefits for lab personnel, research supplies including specialized reagents, animal costs, minor equipment purchases (less than $5,000 per item), service agreements on equipment, research-related support services, and travel expenses (up to $5,000/year per individual) related to the research program. Administrative support salaries are expected to be covered by the Indirect Costs for the grant. Itemization or justification of this category is not required at time of application.

- Laboratory Relocation

Expenses are allowed for relocating the PI, laboratory personnel, equipment, and supplies to California. Expenditures in this category are only permitted in the first grant year and will be paid as reimbursements following submission of receipts.

- Equipment

Major research equipment (moveable equipment costing more than $5,000 per item) necessary for conducting the proposed research at the applicant institution will be paid as reimbursements following submission of receipts. Equipment must be for stem cell-related research and the costs requested from CIRM must be matched 1:1 with expenditures on equipment or lab renovations by the applicant institution. Institutional commitment (including donor commitment) for matching funds must be indicated in Part D.

- Indirect Costs

Indirect costs will be limited to 20% of allowable direct research funding costs awarded by CIRM (i.e., project costs and facilities costs), exclusive of the costs of equipment, tuition and fees, and subcontract amounts in excess of $25,000.

6. *Research Accomplishments (1-2 pages in Part B)*
   Summarize the candidate's major scientific achievements and most influential publications. Highlight independent accomplishments achieved as leader of a research team. Describe how major accomplishments have advanced the field of stem cell biology and/or regenerative medicine.

7. *Research Vision and Plans (2-3 pages in Part B)*
   Describe the overall direction and long-range goals for the research that will be supported by this award. Summarize the PI's ongoing and planned research program. Briefly describe experimental approaches to be employed.

8. *Laboratory/Clinical Facilities including major equipment (up to 1 page in Part B)*
   The applicant institution should provide a short description of the available research facilities and environment that will enable the candidate's research program. Describe shared core facilities and major equipment (e.g., vivarium, proteomics center, imaging center, nanofabrication facilities, GMP lab). Discuss ways in which the proposed studies will benefit from the unique features of this scientific environment and explain how access to these research resources will be provided to the candidate.

9. *Curriculum Vitae (CV) including awards and Publications List (up to 6 pages in Part C)*
   Provide a detailed CV and comprehensive list of publications using the format indicated in the template.

10. *Institutional Commitment (up to 2 pages in Part D)*
    The applicant institution must provide a letter of support, signed by the Authorized Executive Official[1] summarizing the institution's commitment to the candidate. This statement must describe the nature of the candidate's proposed position, including non-research-related duties and activities, indicate the percent effort that will be allowed for stem cell-related research, detail the laboratory space, equipment and start-up funds that will be provided to the candidate, and explain the collaborative resources and administrative support that will be available during the award period. The letter should also discuss the institution's commitment of matching funds for equipment or renovation (as described above). Include a brief discussion of the institution's overall program in regenerative medicine and future plans for further development of stem cell programs and explain the role of the candidate in those plans.

11. Letters of Reference (up to 6 pages in Part E)
    The applicant institution should provide 4 letters of reference in support of the candidate's nomination for the award. These letters should be solicited from knowledgeable and recognized experts from outside the

[1] Members of the ICOC (or their alternates), who as part of their duties at an applicant institution would typically sign a letter of commitment, should delegate responsibility for the letter of commitment to another officer at their institution.

applicant institution. Letters should address the scientific contributions of the candidate and assess prospects for the PI's future research to significantly advance the fields of stem cell biology and regenerative medicine.

C. Application Admission Instructions

The Application consists of five parts: Part A: Application Information Form, Part B: Research Accomplishments and Plans, Part C: CV and Publication List for PI, Part D: Institutional Letter of Nomination and Commitment, and Part E, External Letters of Reference. **All five parts of the Application for CIRM Research Leadership Awards must be submitted together and received by CIRM no later than 5:00 pm on a deadline date (see below), in electronic form in order to be considered in that review cycle. In addition, a signed copy of the application signature page (from Part A) must be submitted as a hard copy (via mail, express mail or courier service), as a fax copy (415-396-9142) or as a scanned PDF file sent electronically. ~~Applications received beyond the deadline will be considered in the following review cycle~~.** (revision 9/12/13)

Send electronic copies of all parts of the application as attachments in a single email to LeadershipAwards@cirm.ca.gov. In addition to the electronic submission, the applicant institution must submit a signed copy of the application signature page (from Part A) as a scanned PDF file to the above email address, as a faxed copy to 415-396-9142, or as a hard copy to:

Research Leadership Awards Application
California Institute for Regenerative Medicine
210 King Street
San Francisco, CA 94107

VIII. Schedule of Deadlines and Reviews (revision 9/12/13)

Applications will be accepted under this RFA for one additional cycle.

Review Cycle	Application Deadline	GWG Review	ICOC Review
14	**January 14, 2014**	March 2014	May 2014

Applications are due by 5:00 PM, PST on the day of the application deadline.

IX. Contacts

For information about this RFA or the review process:

Gilberto R. Sambrano, Ph.D.
Associate Director, Review
California Institute for Regenerative Medicine
Email: gsambrano@cirm.ca.gov
Phone: (415) 396-9103

Michael P. Yaffe, Ph.D.
Associate Director, Research Activities
California Institute for Regenerative Medicine
Email: myaffe@cirm.ca.gov
Phone: (415) 396-9238

X. CIRM Regulations

Grant awards made through this RFA will be subject to CIRM regulations. These regulations can be found on CIRM's website at http://www.cirm.ca.gov/our-funding/stem-cell-regulations-governing-cirm-grants.

A. CIRM Grants Administration Policy

CIRM's Grants Administration Policy (GAP) for Academic and Non-Profit Institutions (Non-Profit GAP) serves as the standard terms and conditions of grant awards issued by CIRM. All research conducted under this award must comply with the stated policy. Progress reports of research, as required by the GAP, are important to CIRM; funding from year to year will depend on adequate scientific progress in stem cell and/or regenerative medicine research in support of CIRM's mission.

B. Intellectual Property Regulations

CIRM has adopted intellectual property and revenue sharing regulations for non-profit and for-profit Grantees. By accepting a CIRM Grant, the Grantee agrees to comply with all such applicable regulations.

C. Human Stem Cell Research Regulations

CIRM has adopted medical and ethical standards for human stem cell research (Title 17, California Code of Regulations, sections 100010-100110). All research conducted under this award will be expected to comply with Californian and relevant national granting agencies providing grant support to applicants. While California regulations prohibit donors of gametes, embryos, somatic cells or human tissue from receiving valuable consideration for their donation, they do allow for reimbursement for permissible expenses as determined by an

Institutional Review Board (IRB) (Title 17, California Code of Regulations, section 100080). “Permissible Expenses” means necessary and reasonable costs directly incurred as a result of donor participation in research activities and may include costs such as those associated with travel, housing, child care, medical care, health insurance and actual lost wages. For research activities proposing to obtain gametes, embryos, somatic cell or tissue from human subjects, CIRM requires the candidate to submit, at the time of application, their reimbursement policy describing how they intend to calculate permissible expenses.