

Research Technician

GENERAL SUMMARY/ OVERVIEW STATEMENT:

A position is open for a full-time technician within the Allen Laboratory at the Ragon Institute of MGH, MIT, and Harvard located in Kendall Square in Cambridge, MA (<http://www.ragoninstitute.org/portfolio-item/allen-lab/>). The candidate will assist in research developing novel approaches to eradicate HIV reservoirs towards establishing a functional cure for HIV.

This position will focus on utilizing gene-editing approaches (such as CRISPR-Cas9 of CCR5) to protect human CD4+ T cells and stem cells from HIV infection, as well as improving the potency of HIV-specific chimeric antigen receptor T (CAR T) cells to target and eradicate HIV reservoirs. These studies will be conducted using humanized mice (BLT and HSC+ models) and will involve both cellular and molecular bench work including but not limited to the following:

- Cell/tissue processing and maintenance, viral propagation and titering
- Flow cytometry, immunohistochemistry staining and microscopy analysis
- Perform molecular analysis of HIV utilizing standard techniques (DNA and RNA extraction, PCR amplification, cloning)
- Next-generation sequencing (NGS) of HIV and data analysis/interpretation
- Utilize the CRISPR/Cas9 system to genetically modify human CD4+ and hematopoietic stem cells
- Perform limited monitoring, blood draws, and injections of immunodeficient mice
- Ensures quality control of equipment, reagents and cellular components
- Performs maintenance, inventory, cleaning, and organizational tasks for the laboratory
- Work in both BSL1 and BSL2+ environments
- Detailed documentation of experimental work
- Assists in project coordination of multiple cohorts
- Attend and participate in weekly lab meetings and scientific discussions, present data

PRINCIPAL DUTIES AND RESPONSIBILITIES:

Please note, the functions below are representative of major duties that are typically associated with these positions. Specific responsibilities may vary based upon departmental needs. Similarly, not all duties that have been outlined will be assigned to each position.

- Prepares basic solutions and performs base-level procedures as assigned (i.e. – pipetting, cell and tissue culture, etc.)
- Maintains laboratory notebook
- Understands and applies basic scientific techniques
- Conducts analysis of results and may begin interpretation of results
- Sets up and prepares routine experiments as directed
- Prepares lab reagents, chemicals, instruments and equipment
- May perform independent literature searches
- Assists with organizing materials for publication or presentation
- Maintains and orders supplies



A Research Technician II performs the duties of a Research Technician I (above) and may also:

- Execute protocols of non-routine experiments
- Assist the PI(s) with determining the most suitable methodology
- Perform basic design and modification of protocols
- Calculate, transcribe and analyze data
- Prepare and present reports
- Organize and summarize acquired data, using scientific and statistical techniques.
- Organize and/or draft material for the preparation of research papers, manuscripts and other documents for publication and/or presentation.
- Participate in the design of experiments or field work.

SKILLS/ABILITIES/COMPETENCIES REQUIRED:

- Ability to work independently and as a team member
- Good communication skills
- Computer literacy
- Working knowledge of clinical research protocols
- Ability to perform multiple tasks independently

The Research Technician II should also possess:

- Analytical skills and the ability to resolve technical problems
- Ability to interpret acceptability of data results
- Working knowledge of data management programs
- Demonstrated competence in research techniques and methodologies

EDUCATION:

- Bachelor's degree required.

EXPERIENCE:

- New graduates with some lab experience (via course work, internships, etc.) or those without any prior research experience will be considered for the Research Technician I position outlined above.
- Those with a minimum of 1 year of directly related work experience will be considered for a Research Technician II position.

SUPERVISORY RESPONSIBILITY (if applicable):

- A Research Technician II may serve as a team leader to lab assistants and Research Technician I's.