

## MASSACHUSETTS GENERAL HOSPITAL

Job Title: Research Technician Job Family: Research

Job Code: 000319 & 001593 Grade: 13 & 14

Department: All Research Departments

### GENERAL SUMMARY/ OVERVIEW STATEMENT:

The Shalek Lab (<http://shaleklab.com>, MIT, Broad Institute, and Ragon Institute), which specializes in leveraging novel single-cell genomic approaches to understand the behaviors of complex biological systems. For this position, there will be a specific focus on infectious disease, primarily in the study of the host response to tuberculosis infection. Research questions will center on understanding the relationship between T cell clonality and control of MTB but also extend to studies of initial granuloma formation and how cells communicate and interact with their microenvironment. The core technique learned and applied will be Seq-Well, an in-house and customizable platform for single cell RNA-sequencing scRNA-seq library generation from thousands of cells in parallel. The project will entail careful consideration of study design, interfacing with clinical teams, fluorescence activated cell sorting (FACS), RNA-seq library preparation, next generation sequencing (NGS), data analysis in R, interpreting and contextualizing findings, and communicating results to the lab and larger community. The position offers an opportunity to gain fundamental skills working in an interdisciplinary and technologically driven environment and to gain access to the intellectual resources available across all three institutes.

### PRINCIPAL DUTIES AND RESPONSIBILITIES:

- 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.