



## MASSACHUSETTS GENERAL HOSPITAL

Job Title: Research Technician

### GENERAL SUMMARY/ OVERVIEW STATEMENT:

The Kleinstiver Laboratory ([www.kleinstiverlab.org](http://www.kleinstiverlab.org)) in the Center for Genomic Medicine at Massachusetts General Hospital (MGH) is seeking motivated and enthusiastic candidates to join our team. Our research group develops, engineers, optimizes, and applies CRISPR genome editing technologies for biomedical research and to pursue new treatments for human diseases. We utilize protein engineering methods to impart desirable properties into various CRISPR-Cas nucleases (Cas9, Cpf1/Cas12a, other Cas12 enzymes, etc.), base editors, prime editors, and other novel editing platforms. Examples of key properties of these genome editing tools that seek to optimize include their efficiency (on-target activity), safety (reducing off-target activity), utility (targeting range / ability to access the genome), size (to enable delivery), precision (their edit outcome, etc.), and many other characteristics. We then translate these optimized reagents into pre-clinical models and primary cell types to explore their potential to correct disease-causing mutations. The candidate will play an integral role in projects related to genome editing technology development, protein engineering method development, optimization of new tools and applications thereof. Candidates should have an interest in genome engineering, CRISPR-Cas enzymes, protein engineering, molecular evolution, generating cellular models, and other related areas.

Under the direction of Dr. Kleinstiver or other lab members, the candidate for the Research Technician I or II position(s) will become proficient in the following duties (examples, but not limited to): routine molecular biology (PCR, recombinant DNA cloning, bacterial transformations, etc.), biochemical techniques, mammalian cell culture, assessment of genome editing technologies in bacteria and mammalian cells, DNA sequencing (Sanger and NGS), designing and executing experiments, analyzing and visualizing data, assisting with routine laboratory tasks (organizing, ordering, stocking, etc.), preparing reagents and solutions, developing and optimizing genome editing assays, recording experimental details and results in an electronic notebook, time management, communication skills, and presenting summaries of work or scientific papers in lab meeting and journal club, respectively.

Interested candidates should also submit their applications directly via email to Dr. Kleinstiver ([bkleinstiver@mgh.harvard.edu](mailto:bkleinstiver@mgh.harvard.edu)), and include the following materials:

1. a CV detailing scientific experience, technical skills, publications, presentations, examples of mentorship, etc.
2. a description of the candidate's research interests, examples of organizational skills, any knowledge or knowhow of genome editing technologies (not required for the position), and career aspirations.
3. contact information for three (3) references, including a description of the referee's familiarity with the candidate.

#### 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.