

EXO Therapeutics

Senior Research Associate Scientist | Biochemistry, Chemical Biology, Therapeutics Discovery

About the company: Exo Therapeutics leverages a new entry point for drug discovery by reprogramming rather than inhibiting enzyme targets. Conventional small-molecule screening strategies for the discovery of enzyme inhibitor drug candidates are strongly focused on evolutionarily conserved catalytic sites. Inhibitors discovered by such approaches shut down all activities mediated by the protein target and often inhibit evolutionarily-related enzymes, both of which can result in problematic toxicities. To address these challenges, Exo Therapeutics developed an innovative small-molecule discovery platform that targets exo sites, distal binding pockets of enzymes, which are not evolutionarily conserved and do not interfere with catalytic residues. Unlike inhibitors that target active sites or allosteric sites, exo-site ligands do not simply shut down the catalytic ability of the enzyme but rather reprogram its activities in more sophisticated ways, such as substrate-selective modulation. For example, the team used the exo-site targeting platform to discover small molecules that change the substrate selectivity of a therapeutically relevant enzyme target, completely blocking its ability to process one substrate involved in disease, but not other non-pathogenic substrates. These features will endow Exo's pipeline with fundamental competitive advantages compared to traditional drugs that simply block or conformationally distort protein active sites. Exo Therapeutics is a venture capital-backed spinoff from Harvard University with headquarters in Kendall Sq., Cambridge, MA.

We are now hiring exceptional researchers to expand our drug discovery program. Please read carefully and consider all details for your application.

This position requires strong experimental skills with a background in biochemistry, chemical biology, and small-molecule validation using quantitative assays. The ideal candidate is creative, energetic, motivated, and deeply enjoys working in the lab. Candidates must hold a Bachelor's or Master's degree in a life sciences-related field. Salary will be competitive with the Boston biotech/pharma sector, commensurate to previous experience, and with attractive employee benefits aligned with our people-first philosophy.

The ideal candidate should demonstrably satisfy all the core requirements stated in this job posting, complemented with a broadly transferable set of skills acquired through extensive lab experience and unquenchable scientific curiosity. This position will offer excellent career-growth prospects, rapidly incrementing independence, access to top-tier lab facilities with top-of-the-line instrumentation, as well as direct exposure to the breadth of activities required to discover and develop first-in-class therapeutics.

Responsibilities, Senior Research Associate Scientist

Perform screens of pre-selected compound libraries, follow up by secondary validation assays, and thoroughly characterize hit compounds. Efficiently generate actionable and high-quality data.

Implement and optimize selected literature-based biochemistry and chemical biology assays for mechanistic experiments and determining the mode-of-inhibition for promising hits.

Conduct project-specific literature research. Propose and implement new experimental techniques. Troubleshoot roadblocks by integrating advice from the team.

Independently manage and order supplies/reagents in a timely manner to ensure continuous progress of parallel experimental workflows under your responsibility. Maintain inventory of small-molecule stocks.

Maintain good data records, protocols, and summaries. Analyze raw data and interpret integrated datasets using Sigma and equivalent software packages.

Take all opportunities to help your colleagues in Exo's shared lab space. Make intellectual contributions as well as serendipitous discoveries. Deliver and discuss results and observations in weekly meetings.

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Required technical competencies that prepare candidates for this position (pick ≥3):

- Protein biochemistry (for example: FP, HTRF, SPR, MST, HPLC, AlphaScreen, LANCE, Octet, *etc.*) and/or activity-based enzymology (for example: Ki, mode-of-inhibition, kinetics, stopped-flow, *etc.*)
- Cell biology techniques (for example: WB, IP, RT-PCR, flow cytometry, proteomics techniques, *etc.*)

And other complementary and transferable skills (pick ≥2):

- Recombinant protein expression (mammalian or insect cells), purification and characterization (for example: MS, SEC, DLS, CD, SDS-PAGE, ITC, *etc.*)
- Cell-based assays (for example: FRET, iLite, DualGlo, CTGlo, HiBiT, CaspaseGlo, *etc.*)
- Molecular biology (for example: CRISPR techniques, lenti, USER/Gibson cloning, mutagenesis, Ala-scanning, NNK libraries, screens/selections, stable cell lines, *etc.*)

Minimum qualifications:

- Bachelor's degree in a life sciences-related field with by a proven track-record of hands-on laboratory experience for 4–5 years, or a Master's degree with 2–3 years of research experience, respectively.
- Strong academic foundation with a background in small molecule discovery/validation, biochemistry, and chemical biology, additionally complemented with the required on-topic employment experience.

Required expertise and personality traits:

- Proficiency with microplate-based assays, implementation and optimization.
- Experience in enzymology, cell culture, and protein purification.
- Proficiency in experimental design, and data analysis using Sigma or equivalent software.
- Troubleshooting skills, analytical perseverance, with a strong ability to integrate advice.
- Proficiency in results presentation, data documentation, and scientific communication.
- Flawless work ethic and superior multi-tasking abilities.
- Optimism, patience, resilience and sincere collegiality.
- A deep love for science down to the core of your very being, engrained in the ventral tegmental area.

How to apply:

Send your CV to “Exo team” at careers@exo-therapeutics.com with a brief cover letter/email, subject line referencing job code #E0121, and please provide email/phone contact info for up to two referrers. Pick a few of the tools or techniques from the lists above and tell us your expertise developed in previous roles, and pick a few others you want to learn and tell us why. Tell us an anecdote and/or proudest moment in lab. Tell us who you would nominate as your scientific hero/heroine and briefly why they have the honor.

Immediate start date preferred. All fully qualified applicants who are authorized to work in the US at the time of application will receive consideration for employment without regard to race, religion, gender, sexual orientation, national origin, ancestry, disability, veteran status, as protected under law.