Company Overview:

Kernal Bio is creating mRNA drugs that instruct specific cells in the body on how to make their own medicine. Messenger RNA technology has proven extremely useful in rapidly developing vaccines against COVID. Kernal is developing the next-generation of mRNA therapy, called mRNA 2.0. It solves a critical problem of cancer cell selectivity that affects mRNA and oncolytic virus-based immuno-oncology drugs. Located in Cambridge, MA, Kernal received three awards from Amgen and NASA. With roots at MIT, Harvard, and Big Pharma, Kernal's interdisciplinary team of MDs and PhDs previously built a successful Biotech company and has deep expertise in mRNA space.

Job Summary:

Kernal Bio is seeking an exceptional, highly motivated Research Associate to contribute to development of its mRNA 2.0 platform for therapeutic applications. The successful candidate will work as part of the team responsible for producing LNP formulated mRNAs and testing them in vitro and in vivo for preclinical studies. Candidate should be proficient in molecular biology workflows and wet lab techniques.

Responsibilities:

- Perform vector construction and validation with relevant quality controls
- Synthesize and purify mRNA products for preclinical studies
- Analyze mRNA product quality via Nanodrop, Bioanalyzer, HPLC, etc.
- Perform routine molecular biology tasks, such as PCR, cloning, cell culture, ELISA, *in vitro* transcription,
- Optimize the mRNA production and purification processes
- Perform routine mammalian cell culture, transfection, fluorescence, flow cytometry
- Culture diverse mammalian cell lines and primary cells
- Help with *in vivo* experiments involving rodents
- Analyze, summarize, and present experimental results to team members and management
- Contribute to technical discussions & intellectual property related to the development and application of Kernal's proprietary technologies
- Explore new technologies and methods to optimize current processes in a fast-paced research environment
- Maintain up-to-date records and communicate results to team members in written technical reports and oral presentations
- Participate in experimental design and troubleshooting efforts
- Interpret, summarize experimental data and maintain excellent laboratory notebooks

Requirements:

- BS/MS in Biology, Molecular Biology, or a similar field (MS degree preferred)
- 2-5 years of academic or industry experience in molecular biology
- Experience in molecular cloning including PCR, restriction enzyme cloning, Golden Gate, Gibson assembly, PCR-based assembly, etc.
- Extensive experience with cell and tissue culture using sterile technique is required
- Proficiency in qPCR, western blotting, ELISA
- Familiarity with nucleic acid purification using HPLC or FPLC
- Experience with analysis of protein expression and gene reporter systems with various techniques such as confocal microscopy, flow cytometry, cell luminescence, imagine systems and quantitative data analysis
- Attention to detail, ability to multi-task and trouble-shoot
- Strong written and verbal communication skills
- Excellent record keeping and data management skills
- Adaptability and enthusiasm for new challenges, innate curiosity and a passion for learning
- Experience working in fast-paced startup environments
- Excellent organization skills, approaching tasks with efficiency
- Integrity
- Ability to analyze, summarize and communicate scientific data
- Ability to work independently while effectively interacting and collaborating in a team environment
- Preferred: Familiarity with Benchling, Snapgene, and GraphPad Prism
- Preferred: Experience with automation (opentrons and similar)
- Preferred: Familiarity with nucleic acid purification and chemistry, enzyme kinetics, and analytical characterization of biomolecules
- Preferred: Experience with analytical techniques HPLC, MALDI-TOF MS, LC-MS/MS, NMR
- Preferred: Experience with bioprocess engineering principles, process modeling, and Design of Experiment (DoE) statistical tools and GMP regulations
- Nice to have: Prior *in vivo* experience with rodents, particularly in oncology setting
- Nice to have: Lipid nanoparticle drug formulation experience

Benefits:

- Competitive 401(k)
- Highly competitive healthcare coverage
- On-site subsidized cafeteria
- Free parking, monthly subway pass or a subsidized commuter rail pass
- Free MIT Athletic Membership
- Free Bluebikes Membership
- Flexible Spending Account
- Paid parental leave, family caregiver leave, medical leave
- Paid insurance coverage
- Competitive vacation and sick days per year

Kernal is dedicated to providing a diverse work environment and is committed to equal employment opportunity for all its employees and qualified applicants. We do not discriminate in employment practices for reasons of race, color, national origin, age, gender, sexual orientation, marital or veteran status, religion, disability, or any other legally protected status. Kernal will make reasonable accommodations for qualified individuals with known disabilities, in accordance with applicable law.

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