

PROJECT CATEGORY:

BioTech

STARTUP:

Syenex

CONTACT: Devin Stranford**WEBSITE:**<https://www.syenex.com/>**EMAIL:** dstranford@syenex.com**RESEARCH AREA:**

At Syenex, we aim to make CAR-T and genetically modified cell therapies better and more accessible to patients by designing, engineering, and screening novel enveloped delivery vectors. We work at the intersection of synthetic biology and gene and cell therapy to enable novel therapeutic solutions.

PROJECT TITLE:

Development and screening of delivery vector compositions to increase therapeutic delivery to target cells

PROJECT DESCRIPTION

This project involves designing and developing innovative screening methods to evaluate novel vector compositions for enhanced therapeutic delivery to specific cell types. The intern will work at the intersection of molecular biology, virology, and cell culture to create and refine tools critical for advancing targeted therapeutic strategies. Central tasks will include molecular cloning techniques to construct and manipulate vectors, maintaining and culturing mammalian cells to test these vectors, and producing, purifying, and analyzing viral particles.

The intern will also optimize production conditions for viral vectors, ensuring high yield and functionality, and utilize flow cytometry for experimental design and analysis to evaluate vector efficacy and specificity. A significant focus will be on maintaining comprehensive records of protocols, experimental data, and observations, enabling reproducibility and iterative improvements. Additionally, the intern will engage in collaboration with the research and development (R&D) team and present findings at company meetings, fostering cross-disciplinary communication and contributing to the project's overall success.

JOB EXPECTATIONS:

By the end of the project, the intern will help identify and refine vector designs that work more effectively. Deliverables will include well-documented protocols, clear experimental data, and an analysis of which vector designs show the most promise.

The intern will gain hands-on experience with molecular biology, cell culture, and data analysis while contributing to real-world research. Their work will play a key role in advancing the development of new therapies.

DESIRED EXPERIENCE:

- Current enrollment in an undergraduate program in biological sciences, biochemistry, engineering, or related field
- Molecular biology and cell culture lab experience
- Strong written and oral communication skills

TIME COMMITMENT:

8 weeks

TRAINING MENTORING:

The intern will be primarily mentored by scientists at the company and will interact with everyone at the company. The intern will work with the mentor(s) to set project goals and receive hands-on training in experimental design, techniques, analysis, and presentation. The intern will have the opportunity to present experimental plans and data for feedback and discussion at R&D and company-wide meetings.