

SUCCESS STORY

Phosphorex Helps a Gene-Editing Biotech Establish Lipid Nanoparticle R&D through Contract FTE Services Saving \$2.2M

⚠ Problem

A pre-clinical biotechnology company developing gene-editing medicines needed LNP research and development capacity to test its gene-editing hypotheses. But according to the executive team's estimates, building an internal team meant over \$2M in equipment and facility investments, roughly \$700K a year in employee salaries and benefits, and months of lead time to get staff, equipment, and reagents in place before the first experiment could run.

💡 Solution

The company contracted Phosphorex for two six-month fractional FTE positions, consisting of a PhD formulation scientist and an associate analytical scientist.

As a result, the client had a consistent, dedicated team available on demand for flexible weekly assignments to:

- Produce benchmark and proprietary ionizable lipid LNP compositions
- Characterize all LNPs by size, PDI, zeta potential, encapsulation efficiency, and F/T stability
- Fabricate and characterize unique ligand conjugated tLNPs for experiments
- Manage cargo, lipids, materials inventory, material supply, and experimental data
- Provide consultation regarding formulation composition and process conditions for new experiments as needed

🎯 Outcome

In 12 months, Phosphorex prepared hundreds of unique LNPs and tLNPs, optimized composition and process conditions, and generated the test articles needed to explore and support the company's core gene-editing hypotheses. The arrangement saved an estimated \$2.2M in the first year and enabled the biotech's leadership team to access the talent and obtain the real-time feedback they would have from an internal team.

Voice of the Customer



One of our core challenges was finding a way to quickly get to proof of mechanism without losing time, building infrastructure, or burning cash. When I visited the Phosphorex facility, I was still deciding between building our own facility or contracting externally. After the tour, I realized that Phosphorex had already built exactly what I would have; it was turnkey and ready to go.

Working with Phosphorex was the easiest partnership I've ever had. One of the things I really appreciated was that as soon as data was available, we would get results, and the quality of the documentation was extremely impressive.



Behind the Solution

Phosphorex had the honor of working with a biotech company that is truly pushing the boundaries of science by developing gene-editing medicines that enable large, precise DNA insertions and deletions anywhere in the human genome without relying on a cell's natural DNA repair machinery.

The client faced a critical decision: build an internal LNP team and accept the substantial capital and hiring risks, or find a partner that could help them reach proof of mechanism faster.

To meet the client's personnel needs, Phosphorex structured six-month fractional full-time-equivalent (FTE) contracts, providing dedicated capacity for the program along with the necessary infrastructure. This allowed the effort to get off the ground almost immediately. Because Phosphorex operates under a fee-for-service model, the client retained ownership of the work product-associated intellectual property rights, while Phosphorex maintained ethical firewalls to ensure the IP remained highly secure.

From the start of the program, the client valued receiving data in real time, allowing the feedback loop to move quickly. The client also praised the quality of the documentation, which surpassed the rigor typically expected for a research-phase initiative. By working closely together, Phosphorex truly augmented the biotech team's capabilities and resources.

As a result of this collaboration, within 12 months, Phosphorex produced the test articles the biotech needed to fully validate its core gene-editing hypotheses.

Phosphorex FTE contract services can be tailored to suit any problem statement or stage of the development pipeline and are also available for:

- LNP or Polymeric Nanoparticle (PNP) Analytical Method Development services
 - Including lipid composition analysis, cargo-lipid adduct formation, polymer content, cargo integrity, ligand content analysis, and forced degradation studies for relevant stability indicating methods
- LNP or PNP Formulation Development and Optimization for Candidate Nomination
- LNP or PNP Formulation Scale-up and Process Development
- Standalone Tangential Flow Filtration (TFF) Process Development

At Phosphorex, we are committed to helping our partners navigate the complexities of precision drug delivery and advance their programs with confidence. We adapt to your modality, delivery target, and mission, bringing together comprehensive expertise through our Drug Delivery Engine to support every stage of development.

With payload-agnostic, non-viral delivery capabilities, deep experience, and an adaptive approach, we move at the pace of your program, iterating, refining, and aligning as needed. Through close collaboration and clear communication, we serve as a true extension of your team, focused on delivering meaningful progress.

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