

Creative Biolabs' Lipid Nanoparticle Platform Accelerates Cutting-Edge Gene Research

Creative Biolabs announced a breakthrough in lipid nanoparticle technology, providing researchers with powerful tools to accelerate biology research.

SHIRLEY, NY, UNITED STATES, December 16, 2025 /EINPresswire.com/ -- Lipid nanoparticles (LNPs) have become a core tool for gene therapy research in recent years. Compared with traditional viral vectors, LNPs have advantages such as low immunogenicity, scalability, and customizable composition, making them highly promising for delivering nucleic acid drugs (such as mRNA, siRNA, DNA, and CRISPR-Cas9 components).

"[Delivering DNA using LNPs](#) presents a unique set of challenges compared to delivering mRNA. Plasmid DNA (pDNA) molecules are larger and more rigid, increasing the difficulty of efficient encapsulation and release," said a scientist at Creative Biolabs.

Creative Biolabs offers a variety of services and products to help researchers accelerate long-term gene expression research using DNA lipid nanoparticles and lipid drug delivery systems. These include:

- *Ready-to-use lipids: such as DSPC, DOPE, DOTAP, and DLin-MC3-DMA, which are essential for building robust LNP formulations.
- *Plasmid construction: including custom plasmid construction to optimize DNA sequences for high-yield expression and integration into LNPs.
- *High-throughput LNP screening: the proprietary platform enables rapid and efficient screening of large LNP libraries to determine the most suitable formulation for the specific therapeutic payload.

The application of CRISPR-Cas9 technology relies on precise and safe delivery methods.

"Studies have shown that LNPs are a superior non-viral alternative to viral vectors. By encapsulating the Cas9 protein and guide RNA, LNPs effectively protect molecular structure and reduce immune responses."

Experimental results show that the modified iGeoCas9 achieves significantly improved editing efficiency both in vitro and in vivo, particularly in liver and lung tissues.

Creative Biolabs focuses on [gene-editing LNP development](#) and provides comprehensive services for the rational design, formulation, and optimization of LNP systems tailored to specific gene-editing payloads.

In addition, overcoming the limitations of liver enrichment has always been a challenge in gene delivery research. Creative Biolabs' [high-throughput screening \(HTS\) platform](#) enables rapid and parallel screening of LNP libraries in vitro and in vivo to identify the best-performing drug candidates. Their team of experts is capable of tackling the complex challenges of developing mRNA therapy LNPs and has broad applicability across a wide range of fields.

"Creative Biolabs is always at the forefront of scientific research. We firmly believe that the key to staying ahead lies in ensuring our customers are always in sync with the latest research findings. The company is committed to providing researchers with safer, more efficient, and more precise solutions to help research projects make further discoveries."

Learn more, please visit <https://www.creative-biolabs.com/lipid-based-delivery/>.

About Creative Biolabs

Creative Biolabs is a leading provider of lipid delivery solutions, focusing on providing researchers with innovative development platforms and professional support to help research teams worldwide overcome lipid delivery challenges and accelerate breakthrough discoveries.

Candy Swift

Creative Biolabs

+1 631-830-6441

marketing@creative-biolabs.com

This press release can be viewed online at: <https://www.einpresswire.com/article/875722518>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2025 Newsmatics Inc. All Right Reserved.