Vitalgen’s LNP Technology Platform Powers Multiple Partner Pipelines with Positive Progress

SHANGHAI, SHANGHAI, CHINA, September 8, 2025 /EINPresswire.com/ -- Shanghai Vitalgen BioPharma Co., Ltd. (“Vitalgen”) today announced that its proprietary lipid nanoparticle (LNP) delivery platform has successfully achieved four external licensing collaborations, with partner pipelines now advancing to IND approval or investigator-initiated trial (IIT) stages.

Vitalgen Shanghai Office

Global Leading ViLNP® Lipid Nanoparticle Delivery Platform

ViLNP® is Vitalgen’s proprietary non-viral delivery platform, comprising an ionizable lipid library, multi-tissue passive targeting formulations, and active targeting delivery technologies. The platform’s key validated modules include:

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> *Dr. Xiaoping Zhao, Chairman and CEO*

- Third-generation ionizable lipid L52715: Industry-leading delivery efficiency with ultra-rapid metabolism; only 0.03% of the parent molecule remains in the liver 24 hours post-administration, enabling high-dose and frequent repeat dosing.

- Ultra-tolerant liver-targeted LNP: Demonstrates exceptional delivery efficiency with a maximum tolerated dose >10-fold higher than classical LNPs, applicable for high-dose gene editing and protein replacement therapies.

- APC-targeted LNP (Dakini): Achieves organ-wide APC-specific mRNA delivery with zero uptake

in liver parenchymal cells, enabling next-generation neoantigen cancer vaccine development.

• Antibody-conjugated targeted LNP (Ab-tLNP): Employs the proprietary CLAMP controlled conjugation technology, scalable for GMP production, with superior in vivo active targeting specificity.

Patent Protection and FTO Assurance

The ViLNP® platform is supported by a comprehensive global patent portfolio, establishing a strong "patent moat" around its core technologies. Multiple modules have undergone freedom-to-operate (FTO) analyses, ensuring compliance, clarity, and sustainability along the commercialization pathway.

Licensing Collaborations Demonstrate Platform Value

To date, the ViLNP® platform has entered into four licensing collaborations across multiple cutting-edge areas, showcasing broad applicability and strong industry interest:

• Collaboration with Therorna Inc., supporting its circular RNA oncology vaccine program (IND approved).

• License to an innovative biotechnology company for use of L52715 in multiple liver-targeted programs.

• Exclusive license with GRIT Biotechnology for Dakini (APC-targeted LNP) in personalized cancer vaccines; GT601, an mRNA vaccine based on this technology, is preparing for IIT initiation.

• License with GRIT Biotechnology for Ab-tLNP in in vivo CAR-T applications; GT801, a next-generation in vivo CAR-T product, is preparing for IIT initiation.

In addition, Vitalgen is advancing technology validation and research collaborations with several global cell and gene therapy companies, further driving the international adoption of the ViLNP® platform and broadening its application across multiple indications.

Dr. Xiaoping Zhao, Chairman and CEO of Vitalgen, commented:

"The broad range of ViLNP® partnerships reflects our commitment to open innovation and win–win collaboration. It also reinforces Vitalgen's global leadership in non-viral delivery and the strong recognition of our platform's value by the industry."

About Vitalgen

Founded in March 2020 and based in Shanghai, China, Vitalgen is dedicated to translating

cutting-edge gene and cell therapy technologies into clinically accessible treatments for patients worldwide.

Vitalgen owns proprietary intellectual property rights covering four core platforms: ViVec® (AAV vector screening platform), ViLNP® (LNP manufacturing platform), ViCas® (CRISPR gene-editing platform), and ViHiYi® (High-yield AAV production platform). Utilizing strategies such as gene replacement, gene regulation, and gene editing, Vitalgen has developed a diversified portfolio of innovative gene and cell therapies targeting CNS diseases, ophthalmic conditions, metabolic and hematologic disorders, and oncology, including multiple potential First-in-Class (FIC) products.

Currently, Vitalgen has received multiple rounds of investment from renowned funds and has established gene therapy R&D and operational centers with an area of 2,500 square meters in the Zhangjiang High-tech Park and a 9,500 square meter GMP commercial production facility in the Waigaoqiao Free Trade Zone.

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