Docket #: S24-082

Cost-Effective, Consistent and Scalable Solution for Lentiviral Vector Production

Stanford researchers have developed an LVCTM3 system for producing lentiviral vectors and other viral particles, offering a cost-effective, simplified and scalable solution for various applications from gene therapy to vaccine development.

Despite the widespread use of lentiviral vectors (LVs) in biomedical research and gene therapies, traditional production methods face significant challenges such as high costs, technical complexity, batch variability, and reliance on proprietary reagents and equipment. These issues impede the accessibility and adoption of LV production systems in research and clinical settings, slowing advancements in gene therapy and personalized medicine.

Stanford researchers have developed the Lenti Virus Collection Media 3 (LVCTM3) system to address inefficiencies and high costs associated with lentiviral vector (LV) production. This innovative system eliminates variability and avoids the need for specialized equipment, using a simplified, cost-effective media formulation. Hence, the LVCTM3 system overcomes the limitations of previous methods, such as Gibco LV MAX, making it invaluable for research and therapeutic applications. This invention sets a new standard for efficiency and cost-effectiveness, providing a stable, scalable alternative for high-titer lentiviral vector production across laboratory and clinical settings.

Stage of Development:
Proof of Concept

Applications

- Cost-effective lentiviral vector production

- Stem cell research and vaccine development

Advantages

- High-quality, efficient solution for viral vector production
- Enhanced transfection efficiency and reduces cytotoxicity
- Significantly reduces the cost of viral vector production
- Adaptable and scalable
- Minimal requirement for proprietary materials

Patents

- Published Application: WO2025240411

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