COMPOSITIONS AND METHODS FOR PRODUCTION OF RECOMBINANT ADENO-ASSOCIATED VIRUS

Tech ID: 31960 / UC Case 2020-129-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20230111672	04/13/2023	2020-129

BRIEF DESCRIPTION

The production of high-quality viral vectors is a foundational requirement for modern gene therapy and molecular biology research. Researchers at UC Berkeley have developed novel compositions and methods for the production of recombinant adeno-associated virus virions. These methods provide a streamlined approach to assembling the necessary genetic components and host cell environments required to generate stable and functional viral particles. By optimizing the specific compositions used during the production process, the technology improves the efficiency and scalability of virus generation, ensuring that the resulting virions meet the rigorous standards needed for therapeutic and research applications.

SUGGESTED USES

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Gene Therapy Development: Producing customized viral vectors to deliver corrective genetic material into human cells for treating genetic disorders.

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Biopharmaceutical Manufacturing: Scaling up the production of viral-based treatments in industrial bioreactors to meet clinical demand.

»

Laboratory Research: Providing a reliable source of recombinant viruses for fundamental studies in cell biology, neuroscience, and immunology.

»

Vaccine Production: Utilizing viral particles as platforms for the delivery of antigens to stimulate immune responses against infectious diseases.

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Diagnostic Tool Development: Engineering specialized virions for use in medical imaging or as molecular sensors in clinical diagnostics.

ADVANTAGES

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Enhanced Production Efficiency: Increases the total yield of functional recombinant adeno-associated virus particles compared to traditional manufacturing methods.

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INVENTORS

» Schaffer, David V.

OTHER INFORMATION

CATEGORIZED AS

» **Biotechnology**

» Health

» Other

» **Medical**

» Therapeutics

» **Research Tools**

» Expression System

» Vectors

RELATED CASES

2020-129-0

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Scalable Manufacturing: The methods and compositions are designed to be integrated into large-scale production workflows for commercial applications.

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High Vector Purity: Ensures that the generated virions are high-quality and consistent, reducing the presence of impurities or non-functional particles.

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Broad Versatility: Compatible with various genetic payloads and viral serotypes, making it a flexible platform for a wide range of medical and scientific needs.

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Optimized Stability: Improves the robustness of the viral particles during the collection and purification stages of production.

RELATED MATERIALS

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Membrane-Associated Accessory Protein Variants Confer Increased AAV Production
- Human Central Nervous System (CNS) Targeting AAV Variants
- High-Throughput Expression-Linked Promoter Selection (ELiPS) in Mammalian Cells
- Improving Packaging and Diversity of AAV Libraries with Machine Learning
- Adeno-Associated Virus Capsids for Enhanced Targeting of Schwann Cells
- Genetically Engineering Cell Lines for Enhanced AAV Manufacturing

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