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Improved Ebola Glycoprotein-Pseudotyped Retroviruses for Gene Transfer and Gene Therapy

A technology utilizing Ebola glycoprotein-pseudotyped retroviruses with improved efficiency enables gene therapy for the lung and provides a platform for quantitatively measuring virus entry and testing antiviral agents.

Transducing cells with viral vectors to deliver novel nucleic acids requires a specific ligand or envelope glycoprotein on the virus surface to bind to a receptor on a target cell. By changing the ligand on the virus (pseudotyping), it is possible to enhance the transduction efficiency towards target cell types. For this technology, Ebola glycoprotein-pseudotyped retroviruses were produced for gene transduction into the lung and other tissues and for the study of Ebola virus entry into cells.

Researchers at Purdue University have developed a technology that allows quantitative measurement of virus entry into host cells and determination of the effectiveness of reagents that inhibit entry. This technology also allows for the production of Ebola glycoprotein-pseudotyped retroviruses with markedly improved titers, making the practical use of such viruses more feasible.

Advantages:

- Allows gene therapy of the lung using pseudotyped retroviruses

- Improved safety and efficiency

Potential Applications:

-Medical/Healthcare

-Pharmaceuticals

-Drug Development

-Antivirals

Technology ID

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Category

Biotechnology & Life Sciences/Cell & Gene Therapy Platforms

Pharmaceuticals/Drug Discovery & Development

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-Gene/Cell Therapy

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