

Enhanced Influenza Hemagglutinin Binders

This technology offers innovative polypeptides that bind with high affinity to influenza hemagglutinin, offering potential applications in treatment, diagnosis, and prevention of influenza.

What is the Problem?

Influenza remains a significant global health challenge, causing seasonal epidemics and occasional pandemics. Current vaccines and treatments often struggle with the virus's rapid mutation, leading to reduced efficacy. As a result, there is a need for general or quickly adaptable solutions to protect against newly emerging influenza viruses. Influenza's main surface glycoprotein, hemagglutinin (HA), is an attractive therapeutic target. While broadly neutralizing antibodies targeting HA have been developed, they are typically administered through the intravenous route and fail to effectively protect against contemporary strains of influenza.

What is the Solution?

The technology involves designed polypeptides that specifically bind with high affinity to the HA protein on the surface of the influenza virus. By targeting the HA protein, which plays a crucial role in the virus's ability to infect host cells, these protein binders can neutralize a broad range of influenza strains. These polypeptides are engineered to target the conserved receptor binding site, thereby neutralizing the virus and preventing it from entering host cells. Further, the mucosal delivery of these protein binders results in the most effective therapeutic protection against contemporary strains of influenza. This approach can potentially overcome the limitations of current vaccines and treatments, providing a more robust defense against influenza.

What is the Competitive Advantage?

High Affinity and Selectivity: The designed protein binders exhibit strong binding to the influenza HA, ensuring effective neutralization.

Broad Spectrum Neutralization: By targeting conserved regions of the hemagglutinin, this innovation provides broad protection against various influenza strains.

Effective Mucosal Delivery: This technology could be developed as an easy to administer inhaler and marketed as a novel therapeutic against influenza.

Ease of Production: The small size and stability of these proteins simplify their production and administration compared to traditional monoclonal antibodies.

Technology ID

BDP 7231

Category

Therapeutics/Infection
Selection of Available
Technologies

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Versatile Applications: This approach not only offers potential therapeutic applications but also aids in the development of more effective diagnostic tools.

Patent Information:

[US20170073375A1](#)

References

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