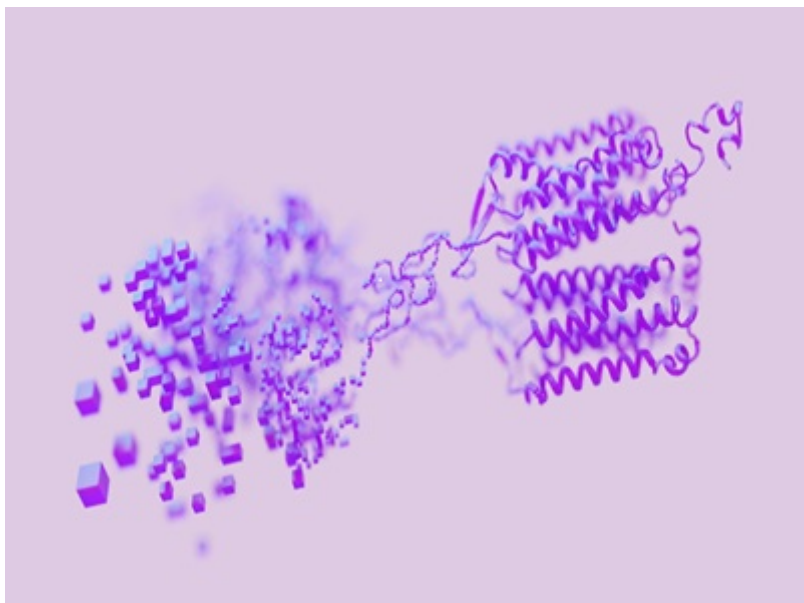


Computationally Designed Inhibitor for Epstein-Barr Virus BHRF1 Protein

The technology is a novel polypeptide designed to inhibit the Epstein-Barr virus BHRF1 protein, inducing apoptosis in infected cells and offering a potential therapeutic approach for Epstein-Barr-related diseases and cancers.



Technology ID

BDP 7411

Category

Therapeutics/Infection
Selection of Available
Technologies

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What is the Problem?

Epstein-Barr virus (EBV) is associated with various cancers, including Burkitt's lymphoma and nasopharyngeal carcinoma. The virus expresses the BHRF1 protein, a homolog of the human Bcl-2 protein, which helps infected cells evade apoptosis, leading to uncontrolled cell proliferation and tumor growth. Current treatments for EBV-related cancers are limited and often involve toxic compounds that can harm healthy cells.

What is the Solution?

Researchers have developed a computationally designed polypeptide that specifically binds to and inhibits the BHRF1 protein of EBV. The novel protein, called BINDI, binds with high specificity and affinity, inducing apoptosis in EBV-infected cells. When delivered using an antibody-targeted carrier, these inhibitors have shown efficacy in suppressing tumor growth and extending survival in preclinical models of EBV-positive lymphoma. This targeted approach offers a promising therapeutic strategy for treating EBV-related cancers by selectively inducing cell death in infected cells, addressing the limitations of current therapies and offering a safer,

more effective alternative.

What is the Competitive Advantage?

High Specificity and Affinity: Designed polypeptides bind BHRF1 with picomolar affinity, ensuring targeted action.

Reduced Toxicity: Selective inhibition of BHRF1 minimizes damage to healthy cells, unlike traditional chemotherapy.

Efficacy in Preclinical Models: Demonstrated tumor suppression and extended survival in xenograft models of EBV-positive lymphoma.

Potential for Broad Application: Can be adapted for other B cell lymphoma family proteins, expanding therapeutic use.

Patent Information:

[US20160376333A1](#)

References

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