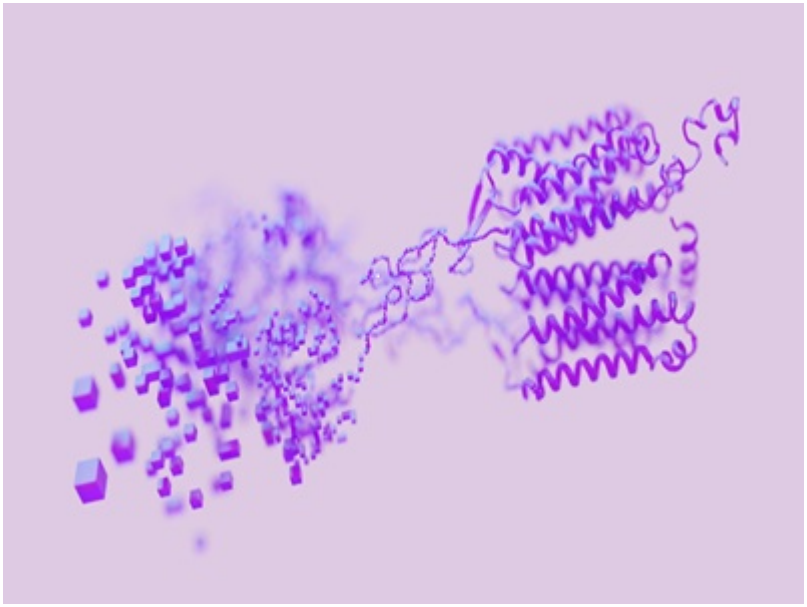
De Novo Designed Protein Binders Targeting TGFβRII, CTLA4, and PD-L1

Novel protein minibinders which bind to convex protein target sites on TGFβRII, CTLA4, and PD-L1 with high affinity and potent biological activity are the solution.



What is the Problem?

In high affinity protein-protein interactions that occur naturally, proteins typically exhibit significant shape complementarity. Recently, there have been considerable advances made in the de novo design of small globular protein minibinders to bind to concave regions of a target protein surface. However, the design of proteins that bind to convex protein target sites remains challenging due to decreased shape complementarity.

What is the Solution?

Novel protein minibinders which bind to convex protein target sites on TGFβRII, CTLA4, and PD-L1 with high affinity and potent biological activity are the solution. The proteins were computationally designed using geometrically matching concave scaffolds. These novel protein minibinders will improve the anticancer efficacy of molecules targeting the inhibition of TGFβRII, CTLA4, and PD-L1 for treatments of different types of cancers.

Technology ID

BDP 8806

Category

Therapeutics/Platform Technology
Selection of Available Technologies
Therapeutics/Other

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What is the Competitive Advantage?

The competitive advantage of this technology lies in its ability to generate high affinity protein minibinders that bind to TGFβRII, CTLA4, and PD-L1, potent drug targets for different cancer types. The computational design approach used here can be expanded beyond these proteins to generate high affinity minibinders to convex protein target sites. This technology can be used to develop highly specific protein minibinders for targeted therapeutics.