**Poster Presentation**

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Prediction of horseshoe configuration in neural receptors: Dscam isoforms

V. Thiruvenkatam[1], Q. Chen[2], J. Wang[2,3]

[1]IIT Gandhinagar, Physics & Bio-Engineering, Ahmedabad, India, [2]Dana-Farber Cancer Institute, [3]Harvard Medical School

Dscam (Down Syndrome Cell Adhesion Molecule), a member of immunoglobulin superfamily (IgSF), is a receptor for netrin-1 [1,2], a classical axon guidance cue. The interaction between netrin-1 and Dscam plays an important role in the development of the nervous system. Here, we present the crystal structure of the N-terminal four Ig-like domains of Dscam. The molecule folds into a horseshoe-like configuration. A comparison of this Dscam horseshoe with the previously described horseshoe structures of other cell-surface receptors has revealed fascinating conserved structural features and important sequence markers for these IgSF proteins. This discovery can help us predict the horseshoe configuration N-terminal arrangements in a number of other structurally unknown neural receptors. The N-terminal horseshoe has been shown to be engaged in homophilic and heterophilic interactions between two cell-surface receptors.

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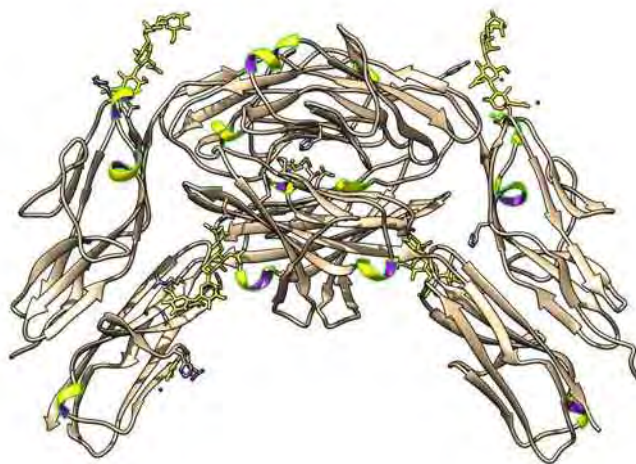
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