Poster Presentations

[MS5-P11] Structural comparison of the head-subdomain of human CD81 large extra-cellular loop

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Human tetraspanin CD81 is one of the three cellular receptors that Hepatitis C virus (HCV) uses to gain entry into hepatocytes. A few years ago the helical bundle structure of its long extra-cellular loop was elucidated by X-ray crystallography (PDBIDs 1G8Q and 1IV5). Recently, a NMR study has suggested unstructured elements in the CD81-LEL head-subdomain involved in HCV attachment.

Here, we report three new crystal structures of hCD81-LEL, bringing the total number of crystallographically independent molecules to twelve. Exhaustive comparative structural analysis over this ensemble of molecules details the high structural dynamism of the CD81-LEL head-subdomain providing atomic information (pairwise Cα rmsd 0.4Å $\leq$ rmsd $\leq$ 5Å) on the recognition module of HCV.

These results are central for structure-based drug design of inhibitors of HCV attachment.