

Structural Studies of Human CD81 Extracellular Domain

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CD81 is a four transmembrane protein of 236 amino acids, belonging to the tetraspanin protein family, involved in various immune responses. Besides the four hydrophobic transmembrane regions, CD81 hosts two extracellular domains, known as large and small extracellular loops (LEL and SEL, respectively). Human CD81 is held to act as (co)receptor for hepatitis C virus (HCV), thus a key participant in the infection.

To widen our knowledge on the roles played by CD81 LEL in binding the HCV E2 glycoprotein, the LEL crystal structure was approached. Three different crystal forms have so far been obtained. We report here on the most recently grown form (R32). Marked conformational fluctuations in the molecular regions held to be involved in binding to the viral protein, suggest rules for recognition and assembly within the tetraspan web.

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