

CD36 Protein, Human (Biotinylated, HEK293, His-Avi)

Cat. No.:	HY-P78909
Synonyms:	CD36; SCARB3; BDPLT10; CHDS7; FAT; GP3B; GP4; GPIV; PASIV; Platelet Glycoprotein 4; glycoprotein IV; gpIV; glycoprotein IIIb; gpIIIb
Species:	Human
Source:	HEK293
Accession:	P16671 (G30-N439)
Gene ID:	948
Molecular Weight:	70-80 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μg , determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu\text{g}/\text{mL}$ in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

CD36 is a versatile glycoprotein serving as a receptor for a diverse array of ligands, encompassing proteinaceous entities like thrombospondin, fibronectin, collagen, or amyloid-beta, as well as lipidic components such as oxidized low-density lipoprotein (oxLDL), anionic phospholipids, long-chain fatty acids, and bacterial diacylated lipopeptides. Exhibiting multivalency, these ligands can engage multiple receptors simultaneously, prompting the formation of CD36 clusters that initiate signal transduction and the internalization of receptor-ligand complexes. The dependency on coreceptor signaling is notably ligand specific. Cellular responses to these ligands play pivotal roles in angiogenesis, inflammatory responses, fatty acid metabolism, taste, and dietary fat processing in the intestine. Additionally, CD36 binds long-chain fatty acids, facilitating their transport into cells and participating in muscle lipid utilization, adipose energy storage, and gut fat absorption. Mechanistically, fatty acid binding activates downstream kinase LYN, phosphorylating palmitoyltransferase ZDHHC5 and leading to CD36 depalmitoylation and caveolar endocytosis. In the small intestine, CD36 plays a role in the proximal absorption of dietary fatty acids and cholesterol, potentially through the activation of the MAPK1/3 (ERK1/2) signaling pathway. It is also involved in oral fat perception and preferences, mediating intracellular calcium level increases in taste receptor cells. Furthermore, CD36 is a significant factor in ventromedial hypothalamus neuronal sensing of long-chain fatty acids and the regulation of energy and glucose homeostasis. Acting as a receptor for thrombospondins, CD36 mediates their antiangiogenic effects and induces apoptosis in podocytes in response to elevated free fatty acids, in

collaboration with THBS1. As a coreceptor for TLR4:TLR6 heterodimer, CD36 promotes inflammation in monocytes/macrophages upon ligand binding, leading to NF-kappa-B-dependent cytokine production and IL1B secretion through the priming and activation of the NLRP3 inflammasome. Furthermore, CD36 serves as a selective and nonredundant sensor of microbial diacylated lipopeptides, triggering NF-kappa-B-dependent TNF production and subsequent Golgi targeting in a lipid-raft dependent pathway through TLR2:TLR6 heterodimer signaling. In the context of microbial infection, CD36 directly mediates cytoadherence of Plasmodium falciparum parasitized erythrocytes and the internalization of particles independently of TLR signaling.

Caution: Product has not been fully validated for medical applications. For research use only.

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