

## CD36 Protein, Rat (HEK293, Fc)

<b>Cat. No.:</b>	HY-P74303
<b>Synonyms:</b>	Platelet glycoprotein 4; GPIIIB; GPIV; CD36; Fat
<b>Species:</b>	Rat
<b>Source:</b>	HEK293
<b>Accession:</b>	Q07969 (G30-K439)
<b>Gene ID:</b>	29184
<b>Molecular Weight:</b>	Approximately 108 kDa

### PROPERTIES

<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

#### Background

CD36 is a multifunctional 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 including oxidized low-density lipoprotein (oxLDL), anionic phospholipids, long-chain fatty acids, and bacterial diacylated lipopeptides. Due to their multivalent nature, these ligands can engage multiple receptors concurrently, prompting the formation of CD36 clusters that initiate signal transduction and the internalization of receptor-ligand complexes. The ensuing cellular responses play pivotal roles in angiogenesis, inflammatory responses, fatty acid metabolism, and the processing of taste and dietary fats in the intestine. CD36's involvement in binding long-chain fatty acids facilitates their transport into cells, contributing to muscle lipid utilization, adipose energy storage, and gut fat absorption. Mechanistically, fatty acid binding activates downstream kinase LYN, leading to the phosphorylation and inactivation of palmitoyltransferase ZDHHC5, subsequently resulting in CD36 depalmitoylation and caveolar endocytosis. In the small intestine, CD36 participates in the proximal absorption of dietary fatty acids and cholesterol, potentially through the activation of the MAPK1/3 (ERK1/2) signaling pathway. Furthermore, CD36 is crucial for oral fat perception and preferences, with its presence in taste receptor cells mediating intracellular calcium level increases and activating gustatory neurons. In the ventromedial hypothalamus, CD36 plays a pivotal role in sensing long-chain fatty acids and regulating energy and glucose homeostasis. Acting as a receptor for thrombospondins and as a coreceptor for TLR4:TLR6 heterodimer, CD36 promotes antiangiogenic effects and

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inflammation in monocytes/macrophages, respectively. Upon ligand binding, CD36 interacts with the TLR4:TLR6 heterodimer, leading to internalization and triggering inflammatory responses via NF-kappa-B-dependent pathways. Additionally, CD36 serves as a selective and nonredundant sensor of microbial diacylated lipopeptides, eliciting NF-kappa-B-dependent cytokine production and subsequent Golgi targeting in a lipid-raft dependent pathway through TLR2:TLR6 heterodimer signaling.

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

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