

Recombinant Rat CD36 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52458

Size: 10ug, 100ug

Protein Name: Platelet glycoprotein 4 (Adipocyte membrane protein) (Fatty acid translocase) (Fatty acid transport protein) (Glycoprotein IIIb) (GPIIIB) (PAS IV) (PAS-4) (Platelet glycoprotein IV) (GPIV) (CD antigen CD36)

Synonym: Cd36, Fat

UniProt ID: Q07969

UniProt Link: www.uniprot.org/uniprotkb/Q07969/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 472 AA

Molecular Weight: 53 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGCDRNCGLITGAVIGAVLAVFGGILMPVGDLLIEKTIKREVVLEEGTIAFKNWVKTGTTVYRQFWIFD
VQNPEEVAKNSSKIKVKQGRGPYTYRVRYLAKENITQDPKDSTVSFVQPNGAIFEPSLSVGTENDNFT
VLNLAVAAAPHIYTNSFVQGVLNSLIKKSKSSMFQTRSLKELLWGYKDPFLSLVPYPYSTTVGVFYPYN
NTVDGVYKVFNGKDNISKVAIIDTYKGKRNLSEWESYCDMINGTDAASFPPFVEKSQTLRFFSSDICR
SIYAVFESEVNLKGIPVYRFVLPANAFASPLQNPDPNHCFCCTEKVISNNCTSYGVLDIGKCKEGKPVYIS
LPHFLHASPVDSEPIEGLNPNEDEHRTYLDVEPITGFTLQFAKRLQVNILVKPARKIEALKNLKRPYIVP
ILWLNETGTIGDEKAEMFRNQVTGKIKLLGLVEMVLLGVGVVMFVAFMISYCACRSKNGK

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.



4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Platelet glycoprotein 4 (Adipocyte membrane protein) (Fatty acid translocase) (Fatty acid transport protein) (Glycoprotein IIIb) (GPIIIB) (PAS IV) (PAS-4) (Platelet glycoprotein IV) (GPIV) (CD antigen CD36) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Multifunctional glycoprotein that acts as a receptor for a broad range of ligands. Ligands can be of proteinaceous nature like thrombospondin, fibronectin, collagen or amyloid-beta as well as of lipidic nature such as oxidized low-density lipoprotein (oxLDL), anionic phospholipids, long- and very long-chain fatty acids and bacterial diacylated lipopeptides. They are generally multivalent and can therefore engage multiple receptors simultaneously, the resulting formation of CD36 clusters initiates signal transduction and internalization of receptor-ligand complexes. The dependency on coreceptor signaling is strongly ligand specific. Cellular responses to these ligands are involved in angiogenesis, inflammatory response, fatty acid metabolism, taste and dietary fat processing in the intestine (By similarity) (PubMed:8320718). Binds long-chain fatty acids and facilitates their transport into cells, thus participating in muscle lipid utilization, adipose energy storage, and gut fat absorption (PubMed:18332148, PubMed:8320718). Mechanistically, palmitoylated CD36 captures fatty acids on the cell surface, the binding of fatty acids activates downstream kinase LYN, which phosphorylates the palmitoyltransferase ZDHHC5 and inactivates it, resulting in the subsequent depalmitoylation of CD36, a step needed to initiate the endocytic process and delivery of fatty acids into the cell (By similarity). In the small intestine, plays a role in proximal absorption of dietary fatty acid and cholesterol for optimal chylomicron formation, possibly through the activation of MAPK1/3 (ERK1/2) signaling pathway (By similarity) (PubMed:16276419, PubMed:21610069). Involved in oral fat perception and preferences (By similarity) (PubMed:16276419). Detection into the tongue of long-chain fatty acids leads to a rapid and sustained rise in flux and protein content of pancreatobiliary secretions (By similarity) (PubMed:16276419). In taste receptor cells, mediates the induction of an increase in intracellular calcium levels by long-chain fatty acids, leading to the activation of the gustatory neurons in the nucleus of the solitary tract (By similarity). Important factor in both ventromedial hypothalamus neuronal sensing of long-chain fatty acid and the regulation of energy and glucose homeostasis (By similarity) (PubMed:23557700). Receptor for thrombospondins, THBS1 and THBS2, mediating their antiangiogenic effects (By similarity). As a coreceptor for TLR4:TLR6 heterodimer, promotes inflammation in monocytes/macrophages. Upon ligand binding, such as oxLDL or amyloid-beta 42, interacts with the heterodimer TLR4:TLR6, the complex is internalized and triggers inflammatory response, leading to NF-kappa-B-dependent production of CXCL1, CXCL2 and CCL9 cytokines, via MYD88 signaling pathway, and CCL5 cytokine, via TICAM1 signaling pathway, as well as IL1B secretion, through the priming and activation of the NLRP3 inflammasome. Selective and nonredundant sensor of microbial diacylated lipopeptide that signal via TLR2:TLR6 heterodimer, this cluster triggers signaling from the cell surface, leading to the NF-kappa-B-dependent production of TNF, via MYD88 signaling pathway and subsequently is targeted to the Golgi in a lipid-raft dependent pathway (By similarity).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Membrane raft . Golgi apparatus . Apical cell membrane . Note=Upon ligand-binding, internalized through dynamin-dependent endocytosis.

6. Notes



- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.