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CD36 (Platelet & Microvessel Marker) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone GPIIIb/654]
Catalog # AH12728

Product Information

Application	IHC, IF, FC
Primary Accession	P16671
Other Accession	948, 120949
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2a, kappa
Clone Names	GPIIIb/654
Calculated MW	53053

Additional Information

Gene ID	948
Other Names	Platelet glycoprotein 4, Fatty acid translocase, FAT, Glycoprotein IIIb, GPIIIB, Leukocyte differentiation antigen CD36, PAS IV, PAS-4, Platelet collagen receptor, Platelet glycoprotein IV, GPIV, Thrombospondin receptor, CD36, CD36, GP3B, GP4
Application Note	IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	CD36 (Platelet & Microvessel Marker) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD36
Synonyms	GP3B, GP4
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 (Probable). Binds long- and very long-chain fatty acids and facilitates their transport into cells, thus participating in muscle lipid utilization, adipose energy storage, and gut fat absorption (By similarity) (PubMed:18353783, PubMed:21395585, PubMed:21610069). 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 (PubMed:32958780). 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:18753675). Involved in oral fat perception and preferences (PubMed:22240721, PubMed:25822988). 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). 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). Receptor for thrombospondins, THBS1 and THBS2, mediating their antiangiogenic effects (By similarity). Involved in inducing apoptosis in podocytes in response to elevated free fatty acids, acting together with THBS1 (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 (By similarity) (PubMed:20037584). 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) (PubMed:16880211).
Cellular Location	Cell membrane; Multi-pass membrane protein. Membrane raft. Golgi apparatus. Apical cell membrane {ECO:0000250|UniProtKB:Q08857}. Note=Upon ligand-binding, internalized through dynamin-dependent endocytosis.

Background

Recognizes a protein of 80kDa-90kDa, identified as CD36. It is expressed on platelets, monocytes and macrophages, microvascular endothelial cells, erythrocyte precursors, mammary epithelial cells, and some macrophage derived dendritic cells. CD36 acts as a receptor for thrombospondin (TSP), collagen types I, IV and V, P. falciparum malaria-infected erythrocytes, and sickle erythrocytes. It also functions as a scavenger receptor, mediating macrophage uptake of oxidized low-density lipoprotein (LDL) and recognition of apoptotic polymorphonuclear leukocytes (PMN). CD36 plays a role in platelet aggregation, macrophage foam cell development, inflammation, and the tissue ischemia observed in sickle cell disease and cerebral malaria. Note that 1-4% of Japanese and East Asia population lack CD36.

References

Kishimoto T. et al., eds. Leukocyte Typing VI, p636-643 and p1136-1137, Garland Publishing, Inc, New York and London, 1997. | Greenwalt DE Ikeda H,Tandon NN,Jamieson GA Membrane glycoprotein CD36: a review of its roles in adherence, signal transduction, and transfusion medicine. Blood 1992 80:1105 | Savill J, et al. Thrombospondin cooperates with CD36 and the vitronectin receptor in macrophage recognition of neutrophils undergoing apoptosis. J Clin Invest. 1992;90(4):1513-1522. | Stomski FC et. al. Experimental Cell Research, 1992, 198(1):85-92. | Biggs BA et. al. Journal of Experimental Medicine, 1990, 171(6):1883-1892

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