

Rat CD36 ELISA Kit ab213922

1 Image

Overview

Product name Rat CD36 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
1	16	297pg/ml	16.92	= 5.7%
2	16	1163pg/ml	91.97	= 7.9%
3	16	5833pg/ml	425.8	= 7.3%

Inter-assay

Sample	n	Mean	SD	CV%
1	24	317pg/ml	19.65	= 6.2%
2	24	1160pg/ml	92.8	= 8%
3	24	5856pg/ml	462.62	= 7.9%

Sample type Cell culture supernatant, Serum, Cell Lysate, Hep Plasma, EDTA Plasma

Assay type Sandwich (quantitative)

Sensitivity < 10 pg/ml

Range 156 pg/ml - 10000 pg/ml

Assay time 3h 30m

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Rat

Product overview The Rat CD36 Enzyme-Linked Immunosorbent Assay (ELISA) kit (SR-B3) (ab213922) is designed for the quantitative measurement of Rat CD36 in cell culture supernatants, cell lysates, serum and plasma (heparin, EDTA)

The ELISA kit is based on standard sandwich enzyme-linked immune-sorbent assay technology.

A monoclonal antibody from mouse specific for CD36/SR-B3 has been precoated onto 96-well plates. Standards and test samples are added to the wells; a biotinylated detection polyclonal antibody from goat specific for CD36/SR-B3 is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the Rat CD36/SR-B3 amount of sample captured in plate.

Notes CD36 (Cluster of Differentiation 36) is an integral membrane protein found on the surface of many cell types in vertebrate animals and is also known as FAT, SCARB3, GP88, glycoprotein IV (gpIV) and glycoprotein IIIb (gpIIIb). The human CD36 is a member of a gene family of structurally related glycoproteins and functions as a receptor for collagen type I and thrombospondin. The use of a CD36 genomic probe has allowed the localization of the CD36 locus to the 7q11.2 band by fluorescence in situ hybridization coupled with GTG-banding. CED-1/SCARF1 and C03F11.3/CD36 are beta-glucan binding receptors and define an evolutionarily conserved pathway for the innate sensing of fungal pathogens.

Platform Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	Identifier	1 x 96 tests	1 x 96 tests
ABC Diluent Buffer	Blue Cap	1 x 12ml	1 x 12ml
Adhesive Plate Seal		4 units	4 units
Antibody Diluent Buffer	Green Cap	1 x 12ml	1 x 12ml
Anti-rat CD36 coated Microplate (12 x 8 wells)		1 unit	1 unit
Avidin-Biotin-Peroxidase Complex (ABC)		1 x 100µl	1 x 100µl
Biotinylated anti- rat CD36 antibody		1 x 100µl	1 x 100µl
Lyophilized recombinant rat CD36 standard		2 vials	2 vials
Sample Diluent Buffer	Green Cap	1 x 30ml	1 x 30ml
TMB Color Developing Agent	Black Cap	1 x 10ml	1 x 10ml
TMB Stop Solution	Yellow Cap	1 x 10ml	1 x 10ml
Wash Buffer (25X)		1 x 20ml	1 x 20ml

Function Multifunctional glycoprotein that acts as 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-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-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:21610069). 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 thombospondins, 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 (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). (Microbial infection) Directly mediates cytoadherence of Plasmodium falciparum parasitized erythrocytes and the internalization of particles independently of TLR signaling.

Involvement in disease

Platelet glycoprotein IV deficiency
Coronary heart disease 7

Sequence similarities

Belongs to the CD36 family.

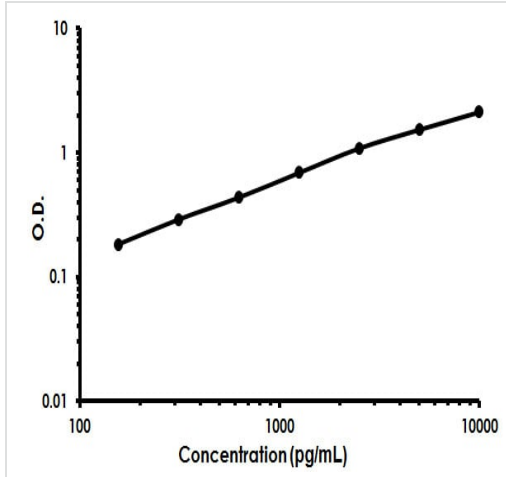
Post-translational modifications

N-glycosylated and O-glycosylated with a ratio of 2:1. Ubiquitinated at Lys-469 and Lys-472. Ubiquitination is induced by fatty acids such as oleic acid and leads to degradation by the proteasome (PubMed:21610069, PubMed:18353783). Ubiquitination and degradation are inhibited by insulin which blocks the effect of fatty acids (PubMed:18353783).

Cellular localization

Cell membrane. Membrane raft. Golgi apparatus. Apical cell membrane. Upon ligand-binding, internalized through dynamin-dependent endocytosis.

Images



Rat CD36 ELISA Kit (SR-B3) (ab213922) Standard Curve.

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