10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-CXCR4 Picoband Antibody

Catalog # ABO10006

Product Information

Application	WB
Primary Accession	P61073
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for C-X-C chemokine receptor type 4(CXCR4) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	7852
Other Names	C-X-C chemokine receptor type 4, CXC-R4, CXCR-4, FB22, Fusin, HM89, LCR1, Leukocyte-derived seven transmembrane domain receptor, LESTR, Lipopolysaccharide-associated protein 3, LAP-3, LPS-associated protein 3, NPYRL, Stromal cell-derived factor 1 receptor, SDF-1 receptor, CD184, CXCR4
Calculated MW	39746
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Cell membrane; Multi-pass membrane protein. Cell junction. Early endosome. Late endosome. Lysosome. In unstimulated cells, diffuse pattern on plasma membrane. On agonist stimulation, colocalizes with ITCH at the plasma membrane where it becomes ubiquitinated. In the presence of antigen, distributes to the immunological synapse forming at the T-cell-APC contact area, where it localizes at the peripheral and distal supramolecular activation cluster (SMAC).
Tissue Specificity	Expressed in numerous tissues, such as peripheral blood leukocytes, spleen, thymus, spinal cord, heart, placenta, lung, liver, skeletal muscle, kidney, pancreas, cerebellum, cerebral cortex and medulla (in microglia as well as in astrocytes), brain microvascular, coronary artery and umbilical cord endothelial cells. Isoform 1 is predominant in all tissues tested. .
Source	Eukaryota
Protein Name	C-X-C chemokine receptor type 4
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human CXCR4 (265-294aa ILLEIIKQGCEFENTVHKWISITEALAFFH), different from the related mouse sequence by five amino acids, and from the related rat sequence by three amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name	CXCR4 {ECO:0000303|PubMed:9468539, ECO:0000312|HGNC:HGNC:2561}
Function	Receptor for the C-X-C chemokine CXCL12/SDF-1 that transduces a signal by increasing intracellular calcium ion levels and enhancing MAPK1/MAPK3 activation (PubMed:10074102, PubMed:10452968, PubMed:10644702, PubMed:10825158, PubMed:18799424, PubMed:20048153, PubMed:20505072, PubMed:24912431, PubMed:28978524, PubMed:8752280, PubMed:8752281). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as adenylate cyclase (PubMed:16725153, PubMed:17197449, PubMed:18799424, PubMed:39093700). CXCR4 is coupled to G(i) G alpha proteins and mediates inhibition of adenylate cyclase (PubMed:17197449, PubMed:39093700). Involved in the AKT signaling cascade (PubMed:24912431). Plays a role in regulation of cell migration, e.g. during wound healing (PubMed:28978524). Also acts as a receptor for extracellular ubiquitin; leading to enhanced intracellular calcium ions and reduced cellular cAMP levels (PubMed:20228059). Binds bacterial lipopolysaccharide (LPS) et mediates LPS-induced inflammatory response, including TNF secretion by monocytes (PubMed:11276205). Involved in hematopoiesis and in cardiac ventricular septum formation (By similarity). Also plays an essential role in vascularization of the gastrointestinal tract, probably by regulating vascular branching and/or remodeling processes in endothelial cells (By similarity). Involved in cerebellar development; in the CNS, could mediate hippocampal-neuron surviva (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Cell junction. Early endosome. Late endosome. Lysosome Note=In unstimulated cells, diffuse pattern on plasma membrane (PubMed:10452968, PubMed:14602072, PubMed:21540189). On agonist stimulation, colocalizes with ITCH at the plasma membrane where it becomes ubiquitinated (PubMed:14602072). In the presence of antigen, distributes to the immunological synapse forming at the T-cell-APC contact area, where it localizes at the peripheral and distal supramolecular activation cluster (SMAC) (PubMed:20215400)
Tissue Location	Expressed in numerous tissues, such as peripheral blood leukocytes, spleen, thymus, spinal cord, heart, placenta, lung, liver, skeletal muscle, kidney, pancreas, cerebellum, cerebral cortex and medulla (in microglia as well as in astrocytes), brain microvascular, coronary artery and umbilical cord endothelial cells Isoform 1 is predominant in all tissues tested

Background

CXCR4 (Chemokine,CXC Motif, Receptor 4), also known as FUSIN or NPY3R, is a protein that in humans is encoded by the CXCR4 gene. It is the receptor for the CXC chemokine SDF1 that has essential functions on embryo organogenesis, immunological functions and T lymphocyte trafficking. CXCR4 is the only SDF1 receptor identified so far. This suggests that CXCR4 expression is critical for the biological effects of SDF1. CXCR4 is also a seven-transmembrane-spanning, G-protein-coupled receptor for the CXC chemokine PBSF/SDF-1. It functions as a co-receptor for T-cell-line tropic human immunodeficiency virus HIV-1. It was concluded that PBSF/SDF-1 and CXCR4 define a new signalling system for organ vascularization.

Images

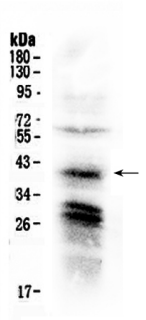

Figure 1. Western blot analysis of CXCR4 using anti-CXCR4 antibody (ABO10006). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: HELA whole Cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CXCR4 antigen affinity purified polyclonal antibody (Catalog # ABO10006) at 0.5 □¼g/mL overnight at 4 □°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for CXCR4 at approximately 40KD. The expected band size for CXCR4 is at 40KD.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.