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

CXCR4 Rabbit pAb

Catalog # AP96746

Product Information

Application	WB
Primary Accession	P70658
Other Accession	P70658
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40426
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse CXCR4
Epitope Specificity	151-300/359
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	Preservative: 0.02% Proclin300, Constituents: 1% BSA, 0.01M PBS, pH7.4.
SIMILARITY	Belongs to the G-protein coupled receptor 1 family.
SUBUNIT	Monomer. Can form dimmers.
Post-translational modifications	Phosphorylated on agonist stimulation. Rapidly phosphorylated on serine and threonine residues in the C-terminal. Phosphorylation at Ser-324 and Ser-325 leads to recruitment of ITCH, ubiquitination and protein degradation. Ubiquitinated by ITCH at the cell membrane on agonist stimulation. The ubiquitin-dependent mechanism, endosomal sorting complex required for transport (ESCRT), then targets CXCR4 for lysosomal degradation. This process is dependent also on prior Ser-/Thr-phosphorylation in the C-terminal of CXCR4. Also binding of ARRB1 to STAM negatively regulates CXCR4 sorting to lysosomes though modulating ubiquitination of SFR5S. Sulfation on Tyr-21 is required for efficient binding of CXCL12/SDF-1alpha and promotes its dimerization. O- and N-glycosylated. Asn-11 is the principal site of N-glycosylation. There appears to be very little or no glycosylation on Asn-176. N-glycosylation masks coreceptor function in both X4 and R5 laboratory-adapted and primary HIV-1 strains through inhibiting interaction with their Env glycoproteins. The O-glycosylation chondroitin sulfate attachment does not affect interaction with CXCL12/SDF-1alpha nor its coreceptor activity.
DISEASE	Defects in CXCR4 are a cause of WHIM syndrome (WHIM) [MIM:193670]; also known as warts, hypogammaglobulinemia, infections and myelokathexis. WHIM syndrome is an immunodeficiency disease characterized by neutropenia, hypogammaglobulinemia and extensive human papillomavirus (HPV) infection. Despite the peripheral neutropenia, bone marrow aspirates from affected individuals contain abundant mature myeloid cells, a condition termed myelokathexis.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a CXC chemokine receptor specific for stromal cell-derived factor-1. The protein has 7 transmembrane regions and is located on the cell surface. It acts with the CD4 protein to support HIV entry into cells and is also

highly expressed in breast cancer cells. Mutations in this gene have been associated with WHIM (warts, hypogammaglobulinemia, infections, and myelokathexis) syndrome. Alternate transcriptional splice variants, encoding different isoforms, have been characterized. Monomer. Can form dimers.

Additional Information

Gene ID	12767
Other Names	CD184; D2S201E; FB22; HM89; HSY3RR; LAP-3; LAP3; LCR1; LESTR; NPY3R; NPYR; NPYRL; NPYY3R; WHIM; WHIMS; WHIMS1; CXC-R4; CXCR-4; Cmkar4; PB-CKR; PBSF/SDF-1; Sdf1r; b2b220Clo; CXCR4_HUMAN; CXCR4; Fusin; Leukocyte-derived seven transmembrane domain receptor (LESTR); Lipopolysaccharide-associated protein 3 (LAP-3 | LPS-associated protein 3); Stromal cell-derived factor 1 receptor (SDF-1 receptor); CXCR4_MOUSE; Pre-B-cell-derived chemokine receptor (PB-CKR); CXCR4_RAT; C-X-C motif chemokine receptor 4; chemokine (C-X-C motif), receptor 4 (fusin); chemokine (C-X-C motif) receptor 4
Dilution	WB=1:500-2000,Flow-Cyt=3 □g/Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Cxcr4
Synonyms	Cmkar4, Lestr, Sdf1r
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:8962122, PubMed:9103415, PubMed:9295051). 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 (By similarity). CXCR4 is coupled to G(i) G alpha proteins and mediates inhibition of adenylate cyclase (By similarity). Involved in the AKT signaling cascade (By similarity). Plays a role in regulation of cell migration, e.g. during wound healing (By similarity). Also acts as a receptor for extracellular ubiquitin; leading to enhanced intracellular calcium ions and reduced cellular cAMP levels (By similarity). Binds bacterial lipopolysaccharide (LPS) et mediates LPS- induced inflammatory response, including TNF secretion by monocytes (By similarity). Involved in hematopoiesis and in cardiac ventricular septum formation (PubMed:9634237, PubMed:9634238, PubMed:9689100). Also plays an essential role in vascularization of the gastrointestinal tract, probably by regulating vascular branching and/or remodeling processes in endothelial cells (PubMed:9634237). Involved in cerebellar development; in the CNS, could mediate hippocampal-neuron surviva (PubMed:9634238, PubMed:9689100).
Cellular Location	Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P61073}. Cell junction {ECO:0000250|UniProtKB:P61073}. Early endosome {ECO:0000250|UniProtKB:P61073}. Late endosome

	{ECO:0000250|UniProtKB:P61073}. Lysosome {ECO:0000250|UniProtKB:P61073}. Note=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) {ECO:0000250|UniProtKB:P61073}
Tissue Location	Lymphocytes, macrophages, neutrophils, microglial cells and astrocytes. Found in spleen, thymus, bone marrow, lymph nodes and, at lower levels in brain, small intestine, stomach and kidney CXCR4-A is predominant in all tissues tested. During embryonic development, high levels are detected in the endothelium of developing blood vessels and in many regions of the developing brain including the olfactory epithelium, olfactory bulb, hippocampus, cerebellum and spinal cord.

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