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CXCR7 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8776b

Product Information

Application	WB, IHC-P, E
Primary Accession	P25106
Other Accession	O89039, P56485
Reactivity	Human
Predicted	Rat, Mouse, Bovine, Canine, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB23520
Calculated MW	41493
Antigen Region	330-358

Additional Information

Gene ID	57007
Other Names	Atypical chemokine receptor 3, C-X-C chemokine receptor type 7, CXC-R7, CXCR-7, Chemokine orphan receptor 1, G-protein coupled receptor 159, G-protein coupled receptor RDC1 homolog, RDC-1, ACKR3, CMKOR1, CXCR7, GPR159, RDC1
Target/Specificity	This CXCR7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 330-358 amino acids from the C-terminal region of human CXCR7.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CXCR7 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACKR3 (HGNC:23692)

Function	Atypical chemokine receptor that controls chemokine levels and localization via high-affinity chemokine binding that is uncoupled from classic ligand-driven signal transduction cascades, resulting instead in chemokine sequestration, degradation, or transcytosis. Also known as interceptor (internalizing receptor) or chemokine-scavenging receptor or chemokine decoy receptor. Acts as a receptor for chemokines CXCL11 and CXCL12/SDF1 (PubMed:16107333, PubMed:19255243, PubMed:19380869, PubMed:20161793, PubMed:22300987). Chemokine binding does not activate G protein-mediated signal transduction but instead induces beta-arrestin recruitment, leading to ligand internalization and activation of MAPK signaling pathway (PubMed:16940167, PubMed:18653785, PubMed:20018651). Required for regulation of CXCR4 protein levels in migrating interneurons, thereby adapting their chemokine responsiveness (PubMed:16940167, PubMed:18653785). In glioma cells, transduces signals via MEK/ERK pathway, mediating resistance to apoptosis. Promotes cell growth and survival (PubMed:16940167, PubMed:20388803). Not involved in cell migration, adhesion or proliferation of normal hematopoietic progenitors but activated by CXCL11 in malignant hemapoietic cells, leading to phosphorylation of ERK1/2 (MAPK3/MAPK1) and enhanced cell adhesion and migration (PubMed:17804806, PubMed:18653785, PubMed:19641136, PubMed:20887389). Plays a regulatory role in CXCR4-mediated activation of cell surface integrins by CXCL12 (PubMed:18653785). Required for heart valve development (PubMed:17804806). Regulates axon guidance in the oculomotor system through the regulation of CXCL12 levels (PubMed:31211835). Acts as a receptor for SHLP2, mediating its effects on activation of proopiomelanocortin neurons in the arcuate nucleus of the hypothalamus which leads to suppression of food intake and increased energy expenditure (PubMed:37468558).
Cellular Location	Cell membrane; Multi-pass membrane protein. Early endosome. Recycling endosome. Note=Predominantly localizes to endocytic vesicles, and upon stimulation by the ligand is internalized via clathrin-coated pits in a beta-arrestin-dependent manner. Once internalized, the ligand dissociates from the receptor, and is targeted to degradation while the receptor is recycled back to the cell membrane.
Tissue Location	Expressed in monocytes, basophils, B-cells, umbilical vein endothelial cells (HUVEC) and B-lymphoblastoid cells Lower expression detected in CD4+ T-lymphocytes and natural killer cells. In the brain, detected in endothelial cells and capillaries, and in mature neurons of the frontal cortex and hippocampus. Expressed in tubular formation in the kidney. Highly expressed in astroglial tumor endothelial, microglial and glioma cells. Expressed at low levels in normal CD34+ progenitor cells, but at very high levels in several myeloid malignant cell lines. Expressed in breast carcinomas but not in normal breast tissue (at protein level).

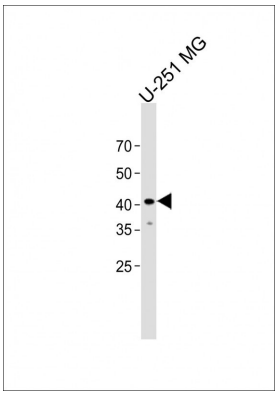
Background

CXCR7 is a member of the G-protein coupled receptor family. Although this protein was earlier thought to be a receptor for vasoactive intestinal peptide (VIP), it is now considered to be an orphan receptor, in that its endogenous ligand has not been identified. The protein is also a coreceptor for human immunodeficiency viruses (HIV).

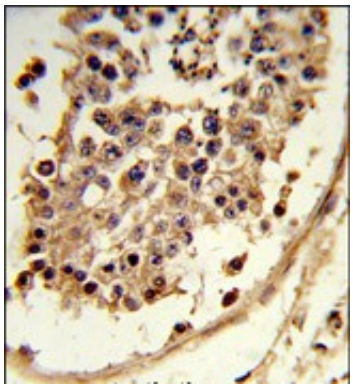
References

Sreedharan,S.P., et.al., Proc. Natl. Acad. Sci. U.S.A. 88 (11), 4986-4990 (1991)

Images



All lanes: Anti-CXCR7 Antibody (C-term) at 1:2000 dilution + U-251 MG whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 41 KDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human testis tissue reacted with CXCR7 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- Chemokine Receptors CXCR4 and CXCR7 are Associated with Tumor Aggressiveness and Prognosis in Extramammary Paget Disease.
- CXCR7 attenuates the TGF-β-induced endothelial-to-mesenchymal transition and pulmonary fibrosis.

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