

CXCL12 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP7779a**Specification**

CXCL12 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession
Other Accession[P48061](#)
[NP_000600](#)**CXCL12 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 6387**Other Names**

Stromal cell-derived factor 1, SDF-1, hSDF-1, C-X-C motif chemokine 12, Intercrine reduced in hepatomas, IRH, hIRH, Pre-B cell growth-stimulating factor, PBSF, SDF-1-beta(3-72), SDF-1-alpha(3-67), CXCL12, SDF1, SDF1A, SDF1B

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7779a](/products/AP7779a) was selected from the N-term region of human CXCL12. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CXCL12 Antibody (N-term) Blocking Peptide - Protein Information**Name** CXCL12**Synonyms** SDF1, SDF1A, SDF1B**Function**

Chemoattractant active on T-lymphocytes and monocytes but not neutrophils. Activates the C-X-C chemokine receptor CXCR4 to induce a rapid and transient rise in the level of intracellular calcium ions and chemotaxis. SDF-1-beta(3-72) and SDF-1-alpha(3-67) show a reduced chemotactic activity. Binding to cell surface proteoglycans seems to inhibit formation of SDF-1-alpha(3-67) and thus to preserve activity on local sites. Also binds to atypical chemokine receptor ACKR3, which activates the beta-arrestin pathway and acts as a scavenger receptor for SDF-1. Binds to the allosteric site (site 2) of integrins and activates integrins ITGA4:ITGB3, ITGA4:ITGB1 and

ITGA5:ITGB1 in a CXCR4-independent manner (PubMed:29301984). Acts as a positive regulator of monocyte migration and a negative regulator of monocyte adhesion via the LYN kinase. Stimulates migration of monocytes and T- lymphocytes through its receptors, CXCR4 and ACKR3, and decreases monocyte adherence to surfaces coated with ICAM-1, a ligand for beta-2 integrins. SDF1A/CXCR4 signaling axis inhibits beta-2 integrin LFA-1 mediated adhesion of monocytes to ICAM-1 through LYN kinase. Inhibits CXCR4-mediated infection by T-cell line-adapted HIV-1. Plays a protective role after myocardial infarction. Induces down-regulation and internalization of ACKR3 expressed in various cells. Has several critical functions during embryonic development; required for B-cell lymphopoiesis, myelopoiesis in bone marrow and heart ventricular septum formation. Stimulates the proliferation of bone marrow-derived B-cell progenitors in the presence of IL7 as well as growth of stromal cell- dependent pre-B-cells (By similarity).

Cellular Location

Secreted.

Tissue Location

Isoform Alpha and isoform Beta are ubiquitously expressed, with highest levels detected in liver, pancreas and spleen Isoform Gamma is mainly expressed in heart, with weak expression detected in several other tissues. Isoform Delta, isoform Epsilon and isoform Theta have highest expression levels in pancreas, with lower levels detected in heart, kidney, liver and spleen

CXCL12 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

CXCL12 Antibody (N-term) Blocking Peptide - Images

CXCL12 Antibody (N-term) Blocking Peptide - Background

Chemokines are a group of small (approximately 8 to 14 kD), mostly basic, structurally related molecules that regulate cell trafficking of various types of leukocytes through interactions with a subset of 7-transmembrane, G protein-coupled receptors. Chemokines also play fundamental roles in the development, homeostasis, and function of the immune system, and they have effects on cells of the central nervous system as well as on endothelial cells involved in angiogenesis or angiostasis. Chemokines are divided into 2 major subfamilies, CXC and CC, based on the arrangement of the first 2 of the 4 conserved cysteine residues; the 2 cysteines are separated by a single amino acid in CXC chemokines and are adjacent in CC chemokines. CXC chemokines are further subdivided into ELR and non-ELR types based on the presence or absence of a glu-leu-arg sequence adjacent and N terminal to the CXC motif. ELR types are chemotactic for neutrophils, while non-ELR types are chemotactic for lymphocytes. Stromal cell-derived factors 1-alpha and 1-beta are small cytokines that belong to the intercrine family, members of which activate leukocytes and are often induced by proinflammatory stimuli such as lipopolysaccharide, TNF (see MIM 191160), or IL1 (see MIM 147760). The intercrines are characterized by the presence of 4 conserved cysteines which form 2 disulfide bonds. They can be classified into 2 subfamilies. In the CC subfamily, which includes beta chemokine, the cysteine residues are adjacent to each other. In the CXC subfamily, which includes alpha chemokine, they are separated by an intervening amino acid. The SDF1 proteins belong to the latter group.

CXCL12 Antibody (N-term) Blocking Peptide - References

Manetti,M., Ann. Rheum. Dis. (2008)Delgado,M.B., Eur. J. Immunol. 31 (3), 699-707 (2001)Oberlin,E., Nature 382 (6594), 833-835 (1996)