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# Anti-CXCL12 Antibody

Catalog # AP59695

## Product Information

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|---|---|
| **Application** | WB, IHC, IF/IC |
| **Primary Accession** | P48061 |
| **Reactivity** | Human, Dog |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 10666 |

## Additional Information

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| **Gene ID** | 6387 |
| **Other Names** | SDF1; SDF1A; SDF1B; 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 |
| **Target/Specificity** | KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human CXCL12. The exact sequence is proprietary. |
| **Dilution** | WB~~WB (1/500 - 1/1000), IP (1/10 - 1/100) IHC~~1:100~500 IF/IC~~N/A |
| **Format** | Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide. |
| **Storage** | Store at -20 °C.Stable for 12 months from date of receipt |

## Protein Information

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|---|---|
| **Name** | CXCL12 {ECO:0000303\|PubMed:16107333, ECO:0000312\|HGNC:HGNC:10672} |
| **Function** | Chemoattractant active on T-lymphocytes and monocytes but not neutrophils (PubMed:18802065, PubMed:39093700). Activates the C-X-C chemokine receptor CXCR4 to induce a rapid and transient rise in the level of intracellular calcium ions and chemotaxis (PubMed:8752281, PubMed:18802065, PubMed:39093700). Also binds to atypical chemokine receptor ACKR3, which activates the beta-arrestin pathway and acts as a scavenger receptor for CXCL12/SDF-1 (PubMed:16107333, PubMed:19255243). Binds to the allosteric site (site 2) of integrins and activates integrins ITGAV: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 (PubMed:18802065). 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 (PubMed:16107333, PubMed:18802065, PubMed:19255243, PubMed:39093700). CXCR4 signaling axis inhibits beta-2 integrin LFA-1 mediated adhesion of monocytes to ICAM-1 through LYN kinase (PubMed:18802065). Inhibits CXCR4-mediated infection by T-cell line- adapted HIV-1 (PubMed:8752281). 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 (By similarity). 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).

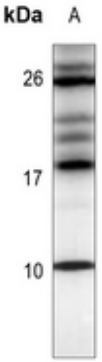
**Cellular Location**

Secreted

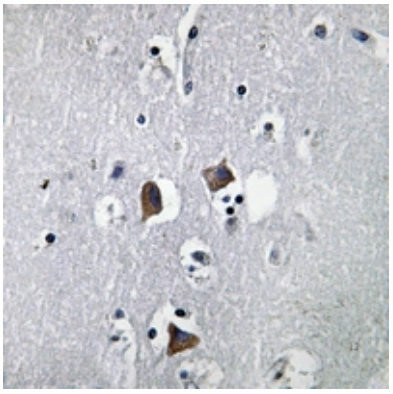
**Tissue Location**

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

## Images

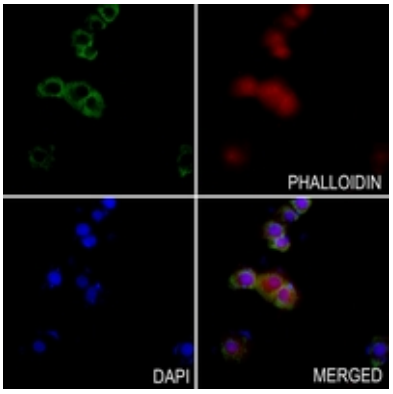



Western blot analysis of CXCL12 expression in Hela (A) whole cell lysates. (Predicted band size: 10 kD; Observed band size: 10 kD)



Immunohistochemical analysis of CXCL12 staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Immunofluorescent analysis of CXCL12 staining in Hela cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was




used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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