

SDF-1 (P-159X): sc-74271

BACKGROUND

The C-X-C or α chemokine family is characterized by a pair of cysteine residues separated by a single amino acid and primarily functions as chemoattractants for neutrophils. The C-X-C family includes IL-8, NAP-2, MSGA and stromal cell-derived factor-1, or SDF-1. SDF-1 was originally described as a pre-B cell stimulatory factor, but has now been shown to function as a potent chemoattractant for T cells and monocytes, but not neutrophils. Receptors for the C-X-C family are G protein-coupled, seven-pass, transmembrane domain proteins which include IL-8RA, IL-8RB and fusin (also designated LESTR or CXCR-4). Fusin is highly homologous to the IL-8 receptors, sharing 37% sequence identity at the amino acid level. The IL-8 receptors bind to IL-8, NAP-2 and MSGA, while fusin binds to its cognate ligand, SDF-1. Fusin has been identified as the major co-receptor for T-tropic HIV-1, and SDF-1 has been shown to inhibit HIV-1 infection. Six human SDF-1 isoforms exist due to alternative splicing of CXCL12, the gene encoding SDF-1. Three isoforms are known for mouse and rat.

REFERENCES

1. Laterveer, L., et al. 1996. Rapid mobilization of hematopoietic progenitor cells in rhesus monkeys by a single intravenous injection of Interleukin-8. *Blood* 87: 781-788.
2. Deng, H., et al. 1996. Identification of a major co-receptor for primary isolates of HIV-1. *Nature* 381: 661-666.

CHROMOSOMAL LOCATION

Genetic locus: CXCL12 (human) mapping to 10q11.21; Cxcl12 (mouse) mapping to 6 F1.

SOURCE

SDF-1 (P-159X) is a mouse monoclonal antibody raised against amino acids 20-89 of SDF-1 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

SDF-1 (P-159X) is recommended for detection of SDF-1 α and SDF-1 β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for SDF-1 siRNA (h): sc-39367, SDF-1 siRNA (m): sc-39368, SDF-1 shRNA Plasmid (h): sc-39367-SH, SDF-1 shRNA Plasmid (m): sc-39368-SH, SDF-1 shRNA (h) Lentiviral Particles: sc-39367-V and SDF-1 shRNA (m) Lentiviral Particles: sc-39368-V.

Molecular Weight of SDF-1: 10 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

SELECT PRODUCT CITATIONS

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9. Xu, J., et al. 2019. Optimization of timing and times for administration of atorvastatin-pretreated mesenchymal stem cells in a preclinical model of acute myocardial infarction. *Stem Cells Transl. Med.* 8: 1068-1083.
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13. Tobiume, M., et al. 2022. Analysis of the chemotactic factors for tumor-infiltrating fibrocytes and their prognostic significances in lung cancer. *Oncol. Lett.* 24: 417.

RESEARCH USE

For research use only, not for use in diagnostic procedures.