

SDF-1 (A-24): sc-133989

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.
3. Nagasawa, T., et al. 1996. Defects of B cell lymphopoiesis and bone marrow myelopoiesis in mice lacking the C-X-C chemokine PBSF/SDF-1. *Nature* 382: 635-638.
4. Bleul, C.C., et al. 1996. The lymphocyte chemoattractant SDF-1 is a ligand for LESTR/fusin and blocks HIV-1 entry. *Nature* 382: 829-833.
5. Ahuja, S.K., et al. 1996. C-X-C chemokines bind to unique sets of selectivity determinants that can function independently and are broadly distributed on multiple domains of human Interleukin-8 receptor B. Determinants of high-affinity binding and receptor activation are distinct. *J. Biol. Chem.* 271: 225-232.
6. Liu, R., et al. 1996. Homozygous defect in HIV-1 co-receptor accounts for resistance of some multiply-exposed individuals to HIV-1 infection. *Cell* 86: 367-377.

CHROMOSOMAL LOCATION

Genetic locus: CXCL12 (human) mapping to 10q11.21.

SOURCE

SDF-1 (A-24) is an affinity purified rabbit polyclonal antibody raised against raised against synthetic SDF-1 peptide mapping within amino acids 44-93 of SDF-1 of human origin.

PRODUCT

Each vial contains 50 μ g IgG in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

SDF-1 (A-24) is recommended for detection of SDF-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

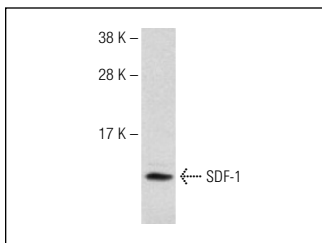
Molecular Weight of SDF-1: 10 kDa.

Positive Controls: human fetal lung tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



SDF-1 (A-24): sc-133989. Western blot analysis of SDF-1 expression in human fetal lung tissue extract.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **SDF-1 (P-159X): sc-74271**, our highly recommended monoclonal alternative to SDF-1 (A-24).