3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

# ProductInformation

**Anti-SDF-1/PBSF**
produced in goat, affinity isolated antibody

Catalog Number **S192**

**Synonym:** Anti-Stromal Cell-Derived Factor-1/Pre-B Cell Growth Stimulating Factor

## Product Description

Anti-SDF-1/PBSF was produced by immunizing goats with purified *E. coli*-derived recombinant human stromal cell-derived factor 1β/pre-B cell growth stimulating factor as the immunogen. SDF-1 specific IgG was purified by SDF-1α affinity chromatography.

This antibody can be used for the localization and detection of human SDF-1/PBSF. It can neutralize the biological activity of recombinant human SDF-1α, Catalog Number S190, and SDF-1β. The antibody may also be used in ELISA and immunoblotting.

SDF-1α and SDF-1β were initially identified and cloned from a mouse bone-marrow stromal cell line and a human stromal cell line as cytokines that supported the proliferation of a stromal cell-dependent pre-B-cell line. SDF-1α and SDF-1β cDNAs encode precursor proteins of 89 and 93 amino acid residues, respectively. SDF-1α and SDF-1β (together also known as SDF-1/PBSF) are encoded by a single gene and arise by alternative splicing. The two proteins are identical except for the four amino acid residues that are present in the carboxy-terminus of SDF-1β and absent from SDF-1α. Unlike other known chemokine α and β subfamily members that cluster on chromosomes 4 and 17, respectively, SDF-1/PBSF was mapped to chromosome 10q11.1. SDF-1/PBSF is highly conserved between species, with only one amino acid substitution between the human and mouse proteins. SDF-1/PBSF is a ligand for CXCR4 (fusin/LESTR) receptor that functions as a co-receptor for lymphocyte-tropic HIV-1 strains. SDF-1/PBSF has been found to be a powerful inhibitor of infection by lymphocyte-tropic HIV-1 strains.

## Reagent

Supplied lyophilized from a sterile solution in phosphate buffered saline with 5% trehalose.

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

## Preparation Instructions

Reconstitute the contents of the vial using sterile PBS: 1 mL will yield an antibody concentration of 0.1 mg/mL.

## Storage/Stability

Prior to reconstitution, store tightly sealed at –20 °C. After reconstitution and for continuous use, the solution may be stored at 2-8 °C for up to one month. For extended storage, solution should be frozen in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended.

## Procedure

The exact concentration of antibody required to neutralize rhSDF-1/PBSF activity is dependent on the cytokine concentration, cell type, growth conditions, and the type of activity studied. The Neutralization $Dose_{50}$ ($ND_{50}$) is defined as the concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when that cytokine is present at a concentration just high enough to elicit a maximum response. The $ND_{50}$ is determined in the presence of 2 ng/mL of rhSDF-1α using BaF/3 cells transfected with hCXCR4 or cultured lymphocytes in a chemotaxis assay.

## Product Profile

ELISA: a working concentration of 0.5-1.0 µg/mL is recommended. The detection limit for rhSDF-1α and rhSDF-1β is ~ 0.6 ng/well.

Immunoblotting: a working antibody concentration of 0.1-0.2 µg/mL is recommended. The detection limit for rhSDF-1α and rhSDF-1β is ~5 ng/lane under non-reducing and reducing conditions.

**References**


1. Shirozu, M., et al., *Genomics* **28**, 495-500 (1995).
2. Nagasawa, T., et al. *Proc. Natl. Acad. Sci. USA* **91**, 2305-2309 (1994).
3. Tashiro, K., et al., *Science* **261**, 600-603 (1993).
4. Bleul, C., et al., *Nature* **382**, 829-833 (1996).
5. Oberlin, E., et al., *Nature* **382**, 833-835 (1996).


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