



Product Data Sheet

Cat # RP-1590 Recombinant Rat Stromal Cell-Derived Factor-1 alpha (SDF1-alpha/CXCL12) **Size:** 10 ug

SDF-1 (stromal cell-derived factor-1) is small cytokine belonging to the chemokine family that is officially designated Chemokine (C-X-C motif) ligand 12 (CXCL12). It is produced in two forms, SDF-1 α /CXCL12a and SDF-1 β /CXCL12b, by alternate splicing of the same gene. Chemokines are characterized by the presence of four conserved cysteines, which form two disulfide bonds. The CXCL12 proteins belong to the group of CXC chemokines, whose initial pair of cysteines are separated by one intervening amino acid. CXCL12 is strongly chemotactic for lymphocytes and has been implicated as an important cell co-ordinator during development. During embryogenesis it directs the migration of hematopoietic cells from foetal liver to bone marrow. Mice which were knocked-out for CXCL12 gene were lethal before the birth or within just 1 hour of life. As another role, CXCL12a alters also the electrophysiology of neurons. CXCL12 was shown to be expressed in many tissues in mice (including brain, thymus, heart, lung, liver, kidney, spleen and bone marrow). The specific activity as determined by its ability to chemoattract human peripheral blood monocytes at 50-100 ng/ml.

SOURCE:

Stromal Cell-Derived Factor-1 alpha Rat Recombinant produced in E.Coli is a non-glycosylated, Polypeptide chain containing 68 amino acids and having a molecular mass of 7.9 kDa. The CXCL12 protein was lyophilized from a concentrated

(1 mg/ml) sterile solution containing 20mM Phosphate buffer pH-7.4 and 150mM NaCl.

APPLICATION AND SUGGESTED DILUTIONS:

Greater than 97.0% as determined by (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE. Users must optimize the appropriate concentration and conditions for each assay.

STORAGE & STABILITY:

Lyophilized SDF-1a although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CXCL12 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). It is recommended to reconstitute the lyophilized SDF-1a in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

USAGE:

This item is for LABORATORY RESEARCH USE ONLY.

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