Recombinant Mouse Stromal Cell-Derived Factor-1 beta (rm SDF-1 beta / CXCL12b)

Synonyms: Pre-B cell growth-stimulating factor, PBSF, hIRH, TPAR1, SCYB12, Thymic lymphoma cell-stimulating factor, TLSF

Introduction: SDF-1 is is produced in two forms, SDF-1α/CXCL12a and SDF-1β/CXCL12b, by alternate splicing of the same gene. The SDF-1 proteins belong to the group of CXC chemokines, whose initial pair of cysteines are separated by one intervening amino acid. SDF-1 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 liverto bone marrow. Mice which were knocked-out for SDF-1 gene were lethal before the birth or within just 1 hour of life. As another role, SDF-1 alters also the electrophysiologyof neurons. SDF-1 was shown to be expressend in many tissues in mice (including brain, thymus, heart, lung, liver, kidney, spleenand bone marrow). The receptor for this chemokine is CXCR4. This SDF-1-CXCR4 interaction used to be considered exclusive (unlike for other chemokines and their receptors), but recently it was suggested that SDF-1 is also bound by CXCR7 receptor. In human and mouse both SDF-1 and CXCR4 show high identity of sequence: 99% and 90%, respectively.

Description: Recombinant murine SDF-1 beta produced in *E.Coli* is a non-glycosylated, polypeptide chain containing 72 amino acids and having a molecular mass of 8.5 kDa. The rm SDF-1 beta is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli.*

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22 µm filtered solution in 25 mM sodium phosphate pH 8.0
The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rm SDF-1 beta in sterile H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rm SDF-1 beta although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rm SDF-1 beta 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). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE Silver stained gel.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Amino acid Sequence: KPVSLSYRCP CRFFESHIAR ANVKHLKILN TPNCALQIVA RLKNNNRQVC IDPKLKWIQE YLEKALNKRL KM

Biological Activity: The biological activity is tested by its chemotactic activity on human lymphocytes.

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

small	2 µg	Cat.N°	12343462
medium	10 µg	Cat.N°	12343463
large	50 µg	Cat.N°	12343465
x-large	250 µg	Cat.N°	12343467
x-large	1000 µg	Cat.N°	12343468

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