

Recombinant Mouse CXCL12/SDF-1 Protein

Catalog Number:PKSM040993



Note: Centrifuge before opening to ensure complete recovery of vial contents.

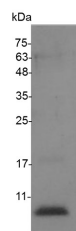
Description

Synonyms	Cxcl12;Stromal cell-derived factor 1;SDF-1;12-O-tetradecanoylphorbol 13-acetate repressed protein 1;TPAR1;C-X-C motif chemokine 12;Pre-B cell growth-stimulating factor;PBSF;Thymic lymphoma cell-stimulating factor;TLSF;Sdf1
Species	Mouse
Expression Host	E.coli
Sequence	Gly 21-Lys 89
Accession	P40224
Calculated Molecular Weight	9.0 kDa
Observed molecular weight	11 kDa
Tag	C-His
Bioactivity	Measure by its ability to chemoattract BaF3 cells transfected with human CXCR4.The ED ₅₀ for this effect is < 0.5 ng/mL.

Properties

Purity	> 98 % as determined by reducing SDS-PAGE.
Endotoxin	< 0.1 EU per µg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 98 % as determined by reducing SDS-PAGE.

Background

Mouse Cxcl12 is a secreted and highly conserved protein which belongs to the intercrine alpha (chemokine Cx-C) family.CXCL12 is widely expressed in various organs including brain, kidney, skeletal muscle, heart, liver, and lymphoid organs. Cxcl12 activates the C-X-C chemokine receptor CXCR4 to induce a rapid and transient rise in the level of intracellular calcium ions and chemotaxis. It also binds to atypical chemokine receptor ACKR3 which activates the beta-

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arrestin pathway and acts as a scavenger receptor for SDF-1. Cxcl12 has several critical functions during embryonic development such as B-cell lymphopoiesis, myelopoiesis in bone marrow and heart ventricular septum formation. Cxcl12 plays an important role in acting as a positive regulator of monocyte migration and a negative regulator of monocyte adhesion via the LYN kinase. It stimulates migration of monocytes and T-lymphocytes through its receptors, CXCR4 and ACKR3, and decreases monocyte adherence to surfaces coated with ICAM-1, a ligand for beta-2 integrins. SDF1A/CXCR4 signaling axis inhibits beta-2 integrin LFA-1 mediated adhesion of monocytes to ICAM-1 through LYN kinase. It also plays a protective role after myocardial infarction, induces down-regulation and internalization of ACKR3 expressed in various cells and stimulates the proliferation of bone marrow-derived b progenitor cells in the presence of IL-7 as well as growth of the stromal cell-dependent B-cell clone DW34 cells.

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