

Recombinant Mouse SDF1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51404

Size: 10ug, 100ug

Protein Name: 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)

Synonym: Cxcl12, Sdf1

UniProt ID: P40224

UniProt Link: www.uniprot.org/uniprotkb/P40224/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 93 AA

Molecular Weight: 11 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDAKVVAVLALVLAALCISDGKPVSLSYRCPFRFFESHIRANVKHLKILNTPNCALQIVARLKNNNR
QVCIDPKLKWIQEYLEKALNKRLKM

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant 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) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Chemoattractant active on T-lymphocytes and monocytes but not neutrophils (By similarity). Activates the C-X-C chemokine receptor CXCR4 to induce a rapid and transient rise in the level of intracellular calcium ions and chemotaxis (By similarity). Also binds to atypical chemokine receptor ACKR3, which activates the beta-arrestin pathway and acts as a scavenger receptor for CXCL12/SDF-1 (By similarity). Binds to the allosteric site (site 2) of integrins and activates integrins ITGA5:ITGB3, ITGA4:ITGB1 and ITGA5:ITGB1 in a CXCR4-independent manner (By similarity). Acts as a positive regulator of monocyte migration and a negative regulator of monocyte adhesion via the LYN kinase (By similarity). 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 (By similarity). CXCR4 signaling axis inhibits beta-2 integrin LFA-1 mediated adhesion of monocytes to ICAM-1 through LYN kinase (By similarity). Plays a protective role after myocardial infarction (By similarity). Induces down-regulation and internalization of ACKR3 expressed in various cells (By similarity). Has several critical functions during embryonic development; required for B-cell lymphopoiesis, myelopoiesis in bone marrow and heart ventricular septum formation (PubMed:8757135). Stimulates the proliferation of bone marrow-derived B-cell progenitors in the presence of IL7 as well as growth of stromal cell-dependent pre-B-cells (PubMed:8134392).

Subcellular Localization: Secreted.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.