Human CXCL12 / SDF1b Protein (Fc Tag)

Catalog Number: **10118-H01H**

General Information

Gene Name Synonym:

IRH; PBSF; SCYB12; SDF-1; SDF1; TLSF; TPAR1

Protein Construction:

A DNA sequence encoding the N-terminally truncated human SDF1β (NP_000600.1) (Lys 22-Met 93) was expressed with the fused Fc region of human IgG1 at the N-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to bind biotinylated recombinant human DPPIV in a functional ELISA.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Glu 20

Molecular Mass:

The recombinant human SDF1/Fc is a disulfide-linked homodimeric protein. The reduced monomer consists of 309 amino acids and predicts a molecular mass of 35.2 kDa. As a result of glycosylation, rhSDF1/Fc monomer is approximately 43 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

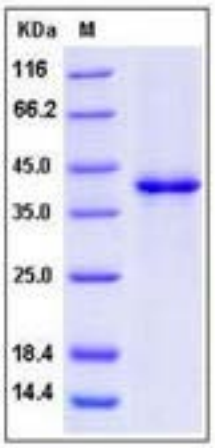
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

The human stromal cell-derived factor-1 (SDF1), also known as CXCL12, is a small (8 kDa) cytokine highly conserved chemotactic cytokine belonging to the large family of CXC chemokines. SDF1 is expressed in two isoforms from a single gene that encodes two splice variants, SDF1α and SDF1β, which are identical except for the four residues present in the C-terminus of SDF1β but absent from SDF1α. The chemokine CXCL12 [stromal cell-derived factor-1 (SDF-1)] binds primarily to CXC receptor 4 (CXCR4; CD184). The binding of CXCL12 to CXCR4 induces intracellular signaling through several divergent pathways initiating signals related to chemotaxis, cell survival and/or proliferation, increase in intracellular calcium, and gene transcription. CXCL12 and CXCR4 that have been widely characterized in peripheral tissues and delineate their main functions in the CNS. Extensive evidence supports CXCL12 as a key regulator for early development of the CNS. In the mature CNS, CXCL12 modulates neurotransmission, neurotoxicity and neuroglial interactions. CXCL12 has crucial roles in the formation of multiple organ systems during embryogenesis and in the regulation of bone marrow haematopoiesis and immune function in the postnatal organism. Although considered an important factor in normal bone metabolism, recent studies implicate CXCL12 in the pathogenesis of several diseases involving the skeleton, including rheumatoid arthritis and cancers that metastasize to bone. The CXCL12/CXCR4 axis is involved in tumor progression, angiogenesis, metastasis, and survival. Pathologically enhanced CXCL12 signaling may promote the formation of new vessels through recruiting circulating endothelial progenitor cells or directly enhancing the migration/growth of endothelial cells. Therefore, CXCL12 signaling represents an important mechanism that regulates brain tumor angiogenesis/vasculogenesis and may provide potential targets for anti-angiogenic therapy in malignant gliomas.

References

1.Bleul, C.C. et al., 1996, Nature. 382: 829-833. 2.Sapede, D. et al., 2005, Proc. Natl. Acad. Sci. USA. 102: 1714-1718. 3.Delgado, M.B. et al., 2001, Eur. J. Immunol. 31: 699-707.