Recombinant SDF1 protein (His tag)

Catalog Number	544633
Synonyms	SDF-1; hSDF-1; C-X-C motif chemokine 12; Intercrine reduced in hepatomas; IRH; hIRH; Pre-B cell growth-stimulating factor; PBSF; 3-72; 3-67
Species	Human
Expression System	E. coli
Accession	P48061
Molecular Weight	Predictes a molecular mass of 10.18 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 10 kDa band.

Product Information

Sequence Region	22-93
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 22-93 aa (P48061) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human SDF-1 Fragment (22-93) is a high-purity, stable protein fragment derived from the Homo sapiens Stromal Cell-Derived Factor 1 (SDF-1), also known as C-X-C motif chemokine 12. This 72-amino acid fragment is engineered for optimal solubility and structural integrity, making it ideal for chemotaxis assays, receptor interaction studies, and biochemical research. Stromal Cell-Derived Factor 1 (SDF-1), encoded by the CXCL12 gene, is a secreted chemokine that functions as a potent chemoattractant for T-lymphocytes and monocytes, but not neutrophils. It activates the C-X-C chemokine receptor CXCR4, leading to intracellular calcium mobilization and directed cell migration. SDF-1 also binds to the atypical chemokine receptor ACKR3, triggering beta-arrestin signaling and acting as a scavenger receptor. Additionally, it interacts with integrins such as ITGAV:ITGB3, ITGA4:ITGB1, and ITGA5:ITGB1 in a CXCR4-independent manner, regulating monocyte migration and adhesion via LYN kinase. The protein plays critical roles in B-cell lymphopoiesis, myelopoiesis, and heart development, and it inhibits HIV-1 infection by downregulating CXCR4. The fragment (22-93) corresponds to a stable, soluble region selected for structural and functional studies, excluding cleavage variants like SDF-1-beta(3-72) and SDF-1-alpha(3-67) to preserve activity.