

Product datasheet

Synthetic Mouse SDF1 protein (Biotin) ab176088

Description

Product name	Synthetic Mouse SDF1 protein (Biotin)	
Expression system	Synthetic	
Accession	P40224	
Protein length	Protein fragment	
Animal free	No	
Nature	Synthetic	
Species	Mouse	
Sequence	KPVLSYRCP CRFFESHAR ANVKHLKILN TPNCALQVA RLKNNNRQVC IDPKLKWIQE YLEK(Linker-Cys-Biotin)ALN	
Predicted molecular weight	9 kDa	
Amino acids	22 to 88	
Additional sequence information	Biotin incorporated at indicated position in a molar ratio of biotin:peptide of 1:1. Linker used is 8-amino-3, 6-dioxaoctanoic acid.	
Conjugation	Biotin	

Specifications

Our [Abpromise guarantee](#) covers the use of **ab176088** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	HPLC
Form	Lyophilized

Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at -20°C or -80°C. Avoid freeze / thaw cycle. Lyophilized from water/acetonitrile/TFA to generate the TFA salt form.
Reconstitution	It is recommended vials be centrifuged prior to opening. Water can be used to prepare stock solutions of 20 µmol.L-1. Stock solutions with up to 30% DMSO/water can also be prepared.

General Info

Function	Chemoattractant active on T-lymphocytes, monocytes, but not neutrophils. Activates the C-X-C chemokine receptor CXCR4 to induce a rapid and transient rise in the level of intracellular calcium ions and chemotaxis. Also binds to atypical chemokine receptor ACKR3, which activates the beta-arrestin pathway and acts as a scavenger receptor for SDF-1. SDF-1-beta(3-72) and SDF-1-alpha(3-67) show a reduced chemotactic activity. Binding to cell surface proteoglycans seems to inhibit formation of SDF-1-alpha(3-67) and thus to preserve activity on local sites. Acts as a positive regulator of monocyte migration and a negative regulator of monocyte adhesion via the LYN kinase. 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. Inhibits CXCR4-mediated infection by T-cell line-adapted HIV-1. Plays a protective role after myocardial infarction. Induces down-regulation and internalization of ACKR3 expressed in various cells. Has several critical functions during embryonic development; required for B-cell lymphopoiesis, myelopoiesis in bone marrow and heart ventricular septum formation.
Tissue specificity	Isoform Alpha and isoform Beta are ubiquitously expressed, with highest levels detected in liver, pancreas and spleen. Isoform Gamma is mainly expressed in heart, with weak expression detected in several other tissues. Isoform Delta, isoform Epsilon and isoform Theta have highest expression levels in pancreas, with lower levels detected in heart, kidney, liver and spleen.
Sequence similarities	Belongs to the intercrine alpha (chemokine CxC) family.
Developmental stage	Isoform Alpha is ubiquitously expressed in fetal tissues. Isoform Beta and isoform Delta have more limited expression patterns, with highest levels detected in fetal spleen and fetal liver, respectively. Isoform Gamma and isoform Theta are weakly detected in fetal kidney.
Post-translational modifications	Processed forms SDF-1-beta(3-72) and SDF-1-alpha(3-67) are produced after secretion by proteolytic cleavage of isoforms Beta and Alpha, respectively. The N-terminal processing is probably achieved by DPP4. Isoform Alpha is first cleaved at the C-terminus to yield a SDF-1-alpha(1-67) intermediate before being processed at the N-terminus. The C-terminal processing of isoform Alpha is reduced by binding to heparin and, probably, cell surface proteoglycans.
Cellular localization	Secreted.

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