

Recombinant Human SCF (His, Flag)

Information



Gene ID	4254
Accession #	P21583
Alternate Names	Hematopoietic growth factor KL; MGF; SCF
Source	293F
Protein sequence	EGICRNRVTNNVKDVTKLVANLPKDYMITLKYVPGMDVLPSHCWISEMVVQLSDSLTDLLDKFSNISEGLSN YSIIDKLVNIVDDLVECVKENSSKDLKKSFKSPEPRLFTPEEFFRIFNRSIDAFKDFVVASETSDCVVSSTLSP EKDSRVSVTKPFMLPPVA
Tag	N-His, N-Flag
M.Wt	The protein has a calculated MW of 18.5 KDa.
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage2 years from date of receipt, -20 to -70 °C as supplied.
Concentration	1 mg/mL
Formulation	Supplied as a 0.2 µm filtered solution in PBS, pH7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Fully biologically active as determined by a cell proliferation assay using TF-1 human erythroleukemic cells. The EC50 for this effect is 1 ng/mL.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95 % by SDS-PAGE.
Endotoxin	Less than 1.0 EU/µg as determined by LAL method.

Description

Stem cell factor (SCF) is a potent hematopoietic growth factor required to regulate embryonic and adult artificial blood. SCF proteins promote survival, differentiation, and mobilization in a variety of cell types, including myeloid cells, erythrocytes, megakaryocytes, lymphocytes, germ cells, and melanocyte progenitor cells. SCF is the primary growth and activation factor for mast cells and eosinophils. SCF contributes to the recovery of cardiac function after myocardial infarction by increasing the number of cardiomyocytes and vascular channels. Stem cell factor is an important ex vivo clinical application cytokine. SCF is used along with other cytokines for the culture and expansion of hematopoietic stem cells (HSCs), as well as for the proliferation and differentiation of myeloid and erythroid progenitor cells. Mature stem cell factors are composed of an extracellular domain (ECD) of 189 amino acids (aa), a transmembrane domain of 23 amino acids, and a cytoplasmic tail of 36 amino acids. ECD shows N-linked and O-linked glycosylation. SCF proteins are available in two forms, one that is membrane-bound and the other is a soluble form that lacks proteolytic treatment of the transmembrane domain and

cytoplasmic tail. The soluble form is produced by proteolytic cleavage at two alternating sites in the extracellular proximal membrane region, releasing a soluble SCF protein of 25 kDa, which is comparable to the only form produced by Steel-dickie mutant mice. There is also an alternate splicing isoform of human SCF that lacks the 28 amino acids that contain major proteolytic recognition sites.











