

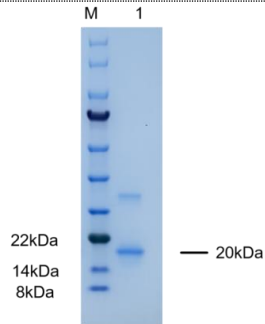


## Human Stem Cell Factor (SCF) Protein, Recombinant

### 1. For Sale

Product Name	Catalog #	Size
Human Stem Cell Factor (SCF) Protein, Recombinant	P01S0011P	10ug
		50ug
		500ug
		1mg

### 2. Product Description

Other Names	SF; MGF; SCF; SLF; DCUA; FPH2; FPHH; KL-1; Kitl; WS2F; SHEP7; DFNA69
Protein & NCBI Number	P21583, M59964
Host	E.coli
Express Region	Met1-Ala189
Protein Sequence	MKKTQTWILTCIYLQLLFNPLVKTEGICRNRVTNNVKDVTCLVANLPKDYMI TLKYVPGMDVLPSCWISEMVVQLSDSLDLLDKFSNISEGLSNYSIIDKLVNI VDDLVECVKENSSKDLKKSFKSPEPRLFTPEEFFRIFNRSIDAFKDFVVASETSD CVVSSTLSPEKDSRVSVTKPFMLPPVA
Molecular Weight	The protein consists of 189 amino acids , with a predicted molecular weight of 21.5kDa, and the actual molecular weight is 20kDa.
Fusion Tag	None
Purity	≥80% SDS-PAGE
Physical Property	Liquid
Components	0.01M PBS+20% glycerol, sterile solution.
Storage & Stability	After aliquoting, the stability of the samples can be maintained for up to 6 months at -20°C to -80°C, avoiding repeated freeze-thaw cycles.
Applications	Antibody preparation, immunoassay (ELISA, WB), subcellular localization and interaction protein identification, etc.
Lead Time	5 to 10 business days;
Figure. SDS-PAGE	 <p>Bis-Tris (MOPS) SDS-PAGE</p>

### 3. Storage and Transportation

Transport at 2-8°C, product is stable for up to twelve months from date of receipt under sterile conditions at -20°C to -80°C.

### 4. Notes

This product is for research use only. Please wear laboratory attire and disposable gloves when handling.



## 5. Background

The Stem Cell Factor (SCF), also known as c-kit ligand (KL), steel factor (SLF), and mast cell growth factor (MGF), is a 30 kDa glycoprotein with a broad range of activities in various tissues, including hematopoietic cells, pigment cells, and primordial germ cells. While SCF has low biological activity when used alone, it exhibits strong synergistic effects when combined with other cytokines.

Recombinant human Stem Cell Factor (rhSCF) is a hematopoietic growth factor that exerts its activity by signaling through the c-Kit receptor. SCF and c-Kit are crucial for the survival, proliferation, and differentiation of hematopoietic cells in the melanocyte and germ cell lineages. The action of Stem Cell Factor (SCF) is species-specific; human SCF has minimal effect on mouse bone marrow cells, with an activity that is only one-eight hundredth that of mouse SCF. Therefore, mice and rats cannot be used for pharmacodynamic and toxicological experiments of recombinant human SCF. In contrast, mouse SCF does have an effect on human bone marrow cells, but a significantly higher dose than human SCF is required to produce a noticeable effect.

## 6. References

- 1) Tissue distribution of stem cell factor in adults. Foster BM, Langsten KL, Mansour A, Shi L, Kerr BA. *Exp Mol Pathol.* 2021 Oct;122:104678.
- 2) The stem cell factor/Kit signalling pathway regulates mitochondrial function and energy expenditure. Huang, Z., Ruan, HB., Xian, L. et al. *Nat Commun* 5, 4282 (2014).
- 3) Kit/stem cell factor receptor-induced activation of phosphatidylinositol 3'-kinase is essential for male fertility. Blume-Jensen, P., Jiang, G., Hyman, R. et al. *Nat Genet* 24, 157–162 (2000)
- 4) Beige adipocytes are a distinct type of thermogenic fat cell in mouse and human. Wu, J. et al. *Cell* 150, 366–376 (2012).
- 5) Autocrine/Paracrine Loop Between SCF<sup>+</sup>/c-Kit<sup>+</sup> Mast Cells Promotes Cutaneous Melanoma Progression. Annese T, Tamma R, Bozza M, Zito A, Ribatti D. *Front Immunol.* 2022 Jan 24;13:794974.