

# Human SCF / C-kit ligand Protein (aa 1-189, His Tag)

Catalog Number: 10451-H08B



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## General Information

### Gene Name Synonym:

C-kit ligand; DCUA; FPH2; FPHH; Kitl; KL-1; MGF; SCF; SF; SHEP7

### Protein Construction:

A DNA sequence encoding the amino acid (Met 1-Ala 189) of human SCF (P21583-1) extracellular domain was expressed, with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 92 % as determined by SDS-PAGE

### Bio Activity:

Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The  $ED_{50}$  for this effect is 1-5 ng/mL.

### Endotoxin:

< 1.0 EU per  $\mu$ g of the protein as determined by the LAL method

**Predicted N terminal:** Glu 26

### Molecular Mass:

The secreted recombinant human SCF (aa 1-189) consists of 175 amino acids and predicts a molecular mass of 19.9 kDa. The apparent molecular mass of rh SCF is approximately 22 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 8.0

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

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

Store it under sterile conditions at -20°C to -80°C 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

Similar to Kit ligand precursor (C-kit ligand), also known as Stem cell factor (SCF), Mast cell growth factor (MGF), or Hematopoietic growth factor KL. SCF/C-kit ligand is the ligand of the tyrosine-kinase receptor encoded by the KIT locus. This ligand is a pleiotropic factor that acts in utero in germ cell and neural cell development, and hematopoiesis, all believed to reflect a role in cell migration. In adults, it functions pleiotropically, while mostly noted for its continued requirement in hematopoiesis. SCF/C-kit ligand stimulates the proliferation of mast cells. This protein can augment the proliferation of both myeloid and lymphoid hematopoietic progenitors in bone marrow culture. It may act synergistically with other cytokines, probably interleukins. SCF/C-kit ligand is the ligand for the tyrosine kinase receptor c-kit, which is expressed on both primitive and mature hematopoietic progenitor cells. In vitro, SCF/C-kit ligand synergizes with other growth factors, such as granulocyte colony-stimulating factor (G-CSF), granulocyte-macrophage colony-stimulating factor, and interleukin-3 to stimulate the proliferation and differentiation of cells of the lymphoid, myeloid, erythroid, and megakaryocytic lineages. In vivo, SCF/C-kit also synergizes with other growth factors and has been shown to enhance the mobilization of peripheral blood progenitor cells in combination with G-CSF. In phase I/II clinical studies administration of the combination of SCF and G-CSF resulted in a two- to threefold increase in cells that express the CD34 antigen compared with G-CSF alone.

## References

1. McNiece IK, *et al.* (1995) Stem cell factor. *J Leukoc Biol.* 58(1): 14-22.
2. Besmer P, *et al.* (1993) The kit-ligand (steel factor) and its receptor c-kit/W: pleiotropic roles in gametogenesis and melanogenesis. *Dev Suppl.* 1993;125-37.
3. Mekori YA, *et al.* (1993) IL-3-dependent murine mast cells undergo apoptosis on removal of IL-3. Prevention of apoptosis by c-kit ligand. *J Immunol.* 151(7): 3775-84.