

Recombinant Rat c-Kit ligand/SCF/KITLG Protein

Catalog No.: RP01794 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Rat	60427	P21581-1

Tags

C-His

Synonyms

Mgf; SCF; Kitl;c-Kit ligand

Product Information

Source	Purification
HEK293 cells	> 97% by SDS-PAGE.

Endotoxin

< 0.01EU/μg

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

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.

Basic Information

Description

Recombinant Rat c-Kit ligand/SCF/KITLG Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Gln26-Ala189) of rat c-Kit ligand/SCF/KITLG (Accession #NP_068615.1) fused with 6xHis tag at the C-terminus.

Bio-Activity

Measured in a cell proliferation assay using MC/9-2 mouse mast cells. The ED50 for this effect is 9.95-39.78 ng/mL, corresponding to a specific activity of $2.51 \times 10^4 \sim 1.01 \times 10^5$ units/mg.

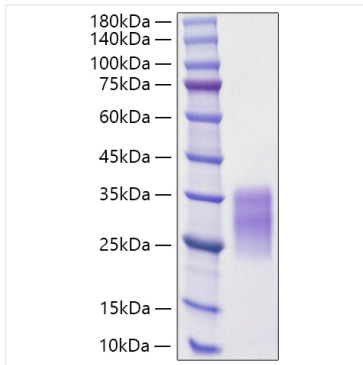
Storage

Store the lyophilized protein at -20°C to -80°C for 12 months.

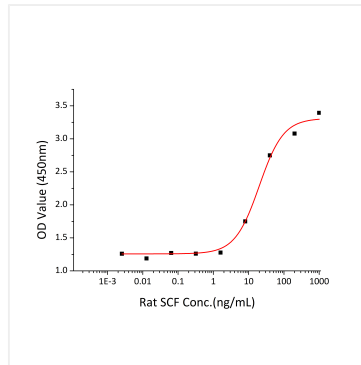
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Rat c-Kit ligand/SCF/KITLG Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 25-45 kDa.



Recombinant Rat c-Kit ligand/SCF/KITLG stimulates cell proliferation of the MC/9-2 mouse mast cells. The ED50 for this effect is 9.95-39.78 ng/mL, corresponding to a specific activity of $2.51 \times 10^4 \sim 1.01 \times 10^5$ units/mg.