

General Information

Synonyms	c-kit Ligand; DCUA; DFNA69; FPH2; FPHH; KIT ligand; Kitl; KITLG; KL-1; MGF; MGFSHEP7; SCF
Accession #	P21583
Source	Human embryonic kidney cell, HEK293-derived human SCF protein
	Glu26-Ala189
Predicted Molecular weight	18.5 kDa

Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.

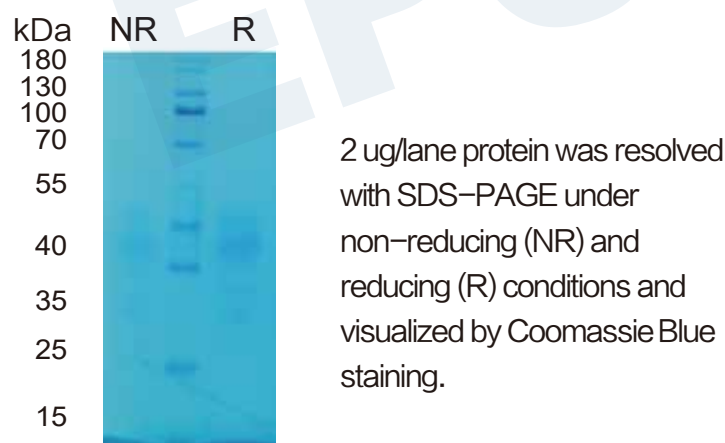
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 ° C as supplied.

Shipping	Shipping with dry ice
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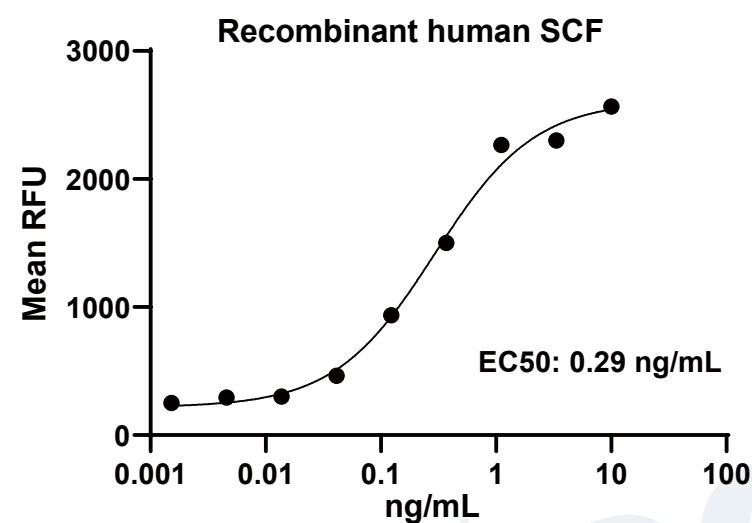
Quality

Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells.
	The EC50 for this effect is 0.1-3 ng/mL.

SDS-PAGE



Bioactivity



Recombinant human SCF/c-kit Ligand (Catalog # HF-2013) stimulates cell proliferation of the TF-1 human erythroleukemic cells.

Background

Stem cell factor (SCF) is a potent hematopoietic growth factor required in regulating both embryonic and adult hematopoiesis. SCF protein promotes the survival, differentiation, and mobilization of multiple cell types including myeloid, erythroid, megakaryocytic, lymphoid, germ cell, and melanocyte progenitors (1-7). SCF is a primary growth and activation factor for mast cells and eosinophils (8). And SCF assists in the recovery of cardiac function following myocardial infarction by increasing the number of cardiomyocytes and vascular channels (9). Stem cell factor is an important cytokine for ex vivo clinical applications. Along with other cytokines, SCF is used in the culture and expansion of hematopoietic stem cells (HSCs) as well as for proliferation and differentiation of both myeloid and erythroid progenitor cells. Mature stem cell factor consists of a 189 amino acid (aa) extracellular domain (ECD), a 23 aa transmembrane domain, and a 36 aa cytoplasmic tail (10). The ECD shows both N-linked and O-linked glycosylation (11). SCF protein exists in two forms, a membrane-bound form and a proteolytically processed soluble form that lacks the transmembrane domain and cytoplasmic tail. The soluble form is created by proteolytic cleavage at two alternate sites in the extracellular juxtamembrane region releasing a 25 kDa soluble SCF protein which is comparable to the only form produced by Steel-dickie mutant mice (12, 13). There is also an alternately spliced isoform of human SCF that lacks 28 amino acids that encompasses the primary proteolytic recognition site (14).

Reference

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