

Human Stem Cell Factor (SCF)

CATALOG NUMBER: SCF-010P, 10 µg

Introduction	Stem cell factor (SCF), also known as c-kit ligand(KL), mast cell growth factor (MGF), and steel factor(SLF), is a type I transmembrane glycoprotein . It promotes the survival, differentiation, and mobilization of multiple cell types including myeloid, erythroid,megakaryocytic, lymphoid, germ cell, and elanocyte progenitors.SCF is a primary rowth and activation factor for mast cells and osinophils. Mature human SCF consists of a 189 amino acid (aa) extracellular domain (ECD), a 23 aa transmembrane segment, and a 36 aa cytoplasmic tail. The ECD shows both Nlinked and O-linked glycosylation. Proteolytic cleavage at two alternate sites in the extracellular juxtamembrane region releases a 25 kDa soluble molecule which is comparable to the only form produced by Steeldickie mutant mice. An alternately spliced isoform of human SCF lacks 28 aa that encompasses the primary proteolytic recognition site. Within the ECD of the short isoform (corresponding to this recombinant protein),human SCF shares 75%-83%aa sequence identity with canine, feline, mouse, and rat SCF. Rat SCF is active on mouse and human cells, but human SCF is only weakly active on mouse cells.Noncovalent dimers of transmembrane or soluble SCF interact with the receptor tyrosine kinase SCF R/ckit to trigger receptor dimerization and signaling. SCF assists in the recovery of cardiac function following myocardial infarction by increasing the number of cardiomyocytes and vascular channels.
Description	Recombinant human stem cell factor produced in Yeast is a glycosylated protein having a molecular weight of 18-24 kDa
Source	Yeast
Purity	≥ 97% purity (by SDS PAGE and HPLC)
Endotoxin Level	≤1 EU/mg, determined by the LAL method
Biological Activity	Measured in a MTT assay using UT-7 cell line, the specific activity shall be not less than 1.2 x10 ⁶ RU/mg
Formulation	Sterile lyophilized powder in PBS, pH7.4. Reconstitute with double distilled water at a concentration of no less than 50 µg/ml with 0.1% human serum albumin (A highly purified plant-derived human serum albumin is strongly suggested to be used, Cat# HAS-1r) or bovine serum albumin as a stock.
Storage	Stable for 6-months from the date of shipment when kept at -20 °C or -70 °C. Upon reconstitution, it can be stored at 4 °C for at least one month or -20 °C for at least three months. Avoid repeated freeze-thaw cycles.
Usage	This product is produced for LABORATORY RESEARCH USE ONLY.