

Recombinant Human Stem Cell Factor (rh SCF) source *E. coli*

Synonyms: Kit ligand Precursor, KL-1, C-kit ligand, Mast cell growth factor, MGF, Steel Factor, SF

Introduction: Stem cell factor is a cytokine which binds CD117(c-Kit). SCF exists in two forms, cell surface bound SCF and soluble (or free) SCF. Soluble SCF is produced by the cleavage of surface bound SCF by metalloproteases. SCF is a growth factor important for the survival, proliferation, and differentiation of hematopoietic stem cells and other hematopoietic progenitor cells. One of its roles is to change the BFU-E (burst-forming unit-erythroid) cells which are the earliest erythrocyte precursors in the erythrocytic series into the CFU-E (colony-forming unit-erythroid). In vitro and in vivo SCF can stimulate the proliferation of mature, as well as the proliferation and maturation of immature, mast cells. On purified primitive human and mouse hematopoietic precursors, SCF acts in a synergistic manner with various growth factors, such as IL-1, IL-3, IL-6, IL-7 and Epo, to induce myeloid, erythroid and lymphoid lineage colony formation.

Murine or rat soluble SCF is highly homologous to human soluble SCF (approximately 80%). Whereas both rat and mouse SCF are active on human cells, the human protein is much less active on mouse or rat cells.

Description: Recombinant human SCF produced in *E. Coli* is a single, non-glycosylated polypeptide chain containing 165 amino acids and having a molecular mass of 18.4 kDa. The rh SCF is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a 0.22µm filtered solution in water containing 10 mM acetic acid. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rh SCF in sterile H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rh SCF although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rh SCF should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: MEGICRNRVT NNVKDVTKLV ANLPKDYMIT LKYVPGMDVL PSHCWISEMV VQLSDSLTDL LDKFSNISEG LSNYSIIDKL VNIVDDLVEC VKENSSKDLK KSFKSPEPRL FTPEEFFRIF NRSIDAFKDF VVASETSDCV VSSTLSPEKD SRVSVTKPFM LPPVA

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

Biological Activity: The ED₅₀ as determined by the dose-dependant stimulation of human TF-1 cells is < 2 ng/ml, corresponding to a specific activity of 5 x 10⁵ IU/mg.

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	2 µg	Cat.N°	11343322
<i>medium</i>	10 µg	Cat.N°	11343323
<i>large</i>	50 µg	Cat.N°	11343325
<i>x-large</i>	250 µg	Cat.N°	11343327
<i>xx-large</i>	1000 µg	Cat.N°	11343328

ImmunoTools Excellent Quality - Advantageously priced

Gladiolenweg 2; 26169 Friesoythe; Germany
 phone:+49-(0)4491-400997, fax:+49-(0)4491-400998, info@immunotools.com
www.immunotools.com