

## Recombinant Rat Stem Cell Factor (rr SCF)

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

**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).

**Description:** Recombinant rat 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 rr SCF is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*.

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

**Formulation:** Lyophilized from a 0.22 µm filtered solution in sodium phosphate pH7.2, 200 mM NaCl. The aliquotes of 1µg and 2 µg contain Trehalose 5% (w/vol) for better recovery

**Solubility:** It is recommended to reconstitute the lyophilized rr SCF in sterile H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rr SCF although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rr 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:** MQEICRNPVT DNVKDITKLV ANLPNDYMIT LNYVAGMDVL PSHCWLRDMV THLSVSLTTL LDKFSNISEG LSNYSIIDKL GKIVDDLAVAC MEENAPKNVK ESLKKPETRN FTPEEFFSIF NRSIDAFKDF MVASDTSDCV LSSTLGPEKD SRVSVTKPFM LPPVA

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

**Biological Activity:** The biological activity of rec. rat SCF was tested by dose dependant proliferation of TF-1 cells. The ED<sub>50</sub> for this effect was determined to be less than 10 ng/ml corresponding to a specific activity of ≥ 1 x 10<sup>5</sup> IU/mg.

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<i>small</i>	2 µg	Cat.N°	13343322
<i>medium</i>	10 µg	Cat.N°	13343323
<i>large</i>	50 µg	Cat.N°	13343325
<i>x-large</i>	250 µg	Cat.N°	13343327
<i>xx-large</i>	1000 µg	Cat.N°	13343328

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