

SCF

Stem Cell Factor

human, recombinant, *E. coli*

Cat. No.	Amount
PR-682	10 μ g

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Lyophilized. SCF was lyophilized from 10 mM acetic acid.

Solubility

It is recommended to reconstitute the lyophilized SCF in sterile bidest H₂O not less than 100 μ g/ml. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity

ED₅₀: < 2 ng/ml, corresponding to a specific activity of 1 x 10⁵ IU/mg, determined by the dose-dependent stimulation of human TF-1 cells.

Molecular Weight

18.4 kDa

Purity

≥ 95% by SDS-PAGE and RP-HPLC

Description

Stem Cell Factor (SCF) plays an important role in hematopoiesis and survival, proliferation, and differentiation of mast cells, melanocytes, and germ cells. SCF mediates its biological effects by binding to and activating a receptor tyrosine kinase designated c-kit or SCF receptor (SCFR).

SCF is also known as mast cell growth factor (MCGF), *steel (Sl)* factor (SLF), or kit ligand (KL).

Recombinant human SCF produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 165 amino acids and having a molecular mass of 18.409 kDa.

The SCF is purified by proprietary chromatographic techniques.

Amino acid sequence

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Glu-Gly-Ile-Cys.

Selected References:

- Zheng *et al.* (2003) *Ex vivo* manipulation of umbilical cord blood-derived hematopoietic stem/progenitor cells with recombinant human stem cell factor can up-regulate levels of homing-essential molecules to increase their trans migratory potential. *Exp. Hematol.* **31**:1237.
- Moon *et al.* (2003) Degranulation and cytokine expression in human cord blood-derived mast cells cultured in serum-free medium with recombinant human stem cell factor. *Mol. Cells.* **16**:154.
- Han *et al.* (2003) Expression of a novel recombinant dual human stem cell factor in insect cells. *Protein Expr. Purif.* **31**:311.
- Zhang *et al.* (2000) Crystal structure of human stem cell factor: implication for stem cell factor receptor dimerization and activation. *Proc. Natl. Acad. Sci. USA.* **97**:7732.