

SCF

Stem Cell Factor

rat, recombinant, *E. coli*

Cat. No.	Amount
PR-684	10 µg

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

Avoid freeze / thaw cycles

Form

Lyophilized. SCF was lyophilized from 0.02% NaHCO₃.

Solubility

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

Activity

ED₅₀: < 10 ng/ml, corresponding to a specific activity of 10⁵ IU/mg, determined by the dosedependent stimulation of the proliferation of human MO7e 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 rat SCF produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 165 (26-189) amino acids.

Amino acid sequence

MQEICRNPTV DNVKDITKLV ANLPNDYMIT LNY-
VAGMDVL PSHCWLRDMV THLSVSLTTL LDKFSNISEG
LSNYSIIDKL GKIVDDLIVAC MEENAPKNVK ESLKKPETRN
FTPPEFFSIF NRSIDAFKDF MVASDTSDCV LSSTLGPEKD
SRVSVTKPFM LPPVA

Selected References:

- Barreiro *et al.* (2004) Ghrelin inhibits the proliferative activity of immature Leydig cells *in vivo* and regulates stem cell factor messenger ribonucleic acid expression in rat testis. *Endocrinology*. **145**:4825.
- Wang *et al.* (2004) Survivin expression in rat testis is upregulated by stem-cell factor. *Mol. Cell. Endocrinol.* **218**:165.
- Huang *et al.* (2001) Stem cell factor and insulin-like growth factor-I stimulate luteinizing hormone-independent differentiation of rat ovarian theca cells. *Biol. Reprod.* **64**:451.
- Steinmetz *et al.* (2000) Effects of growth hormone-releasing hormone-related peptide on stem cell factor expression in cultured rat Sertoli cells. *Endocrine*. **12**:323.
- Yan *et al.* (2000) Involvement of Bcl-2 family proteins in germ cell apoptosis during testicular development in the rat and pro-survival effect of stem cell factor on germ cells *in vitro*. *Mol. Cell. Endocrinol.* **165**:115.
- Ferjan *et al.* (2000) Differential effect of interleukin-3, stem cell factor and nerve growth factor on histamine and serotonin release from rat mast cells. *Inflamm. Res.* **49**:15.