Revision 1

#8925 Store at -20C

# Human Stem Cell Factor (hSCF)

Cell Signaling TECHNOLOGY®

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| MW (kDa): | UniProt ID: | Entrez-Gene Id: |
|---|---|---|
| 22-35 | #P21583 | 4254 |

## Background

SCF is produced by endothelial cells, fibroblasts, keratinocytes, gut epithelial cells and tumor cells (1,2). SCF is critical for hematopoiesis and mast cell differentiation and has additional roles in survival and function of other cell types (1). Some tumor cell proliferation and invasiveness are promoted by SCF (3). Tumor-derived SCF appears to be involved in expansion of myeloid-derived suppressor cells that in-turn limits proliferation of tumor-infiltrating T-cells (4). SCF may have additional roles in the tumor microenvironment (2). SCF is either soluble or integral membrane and the form is dependant on variation in splicing or proteolytic release (1). SCF binds to the receptor tyrosine kinase c-kit and induces activation of the AKT, ERK, JNK and p38 pathways (5,6).

## Endotoxin

Less than 0.01 ng endotoxin/1 µg hSCF.

## Purity

>98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hSCF. All lots are greater than 98% pure.

## Source / Purification

Recombinant human SCF (hSCF) Glu26-Ala189 (Accession #P21583) was expressed in human 293 cells at Cell Signaling Technology.

## Bioactivity

The bioactivity of recombinant hSCF was determined in a M-07e cell proliferation assay. The $ED_{50}$ of each lot is between 2-6 ng/ml.

## Background

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## Background References

1. Broudy, V.C. (1997) *Blood* 90, 1345-64.
2. Huang, B. et al. (2008) *Blood* 112, 1269-79.
3. Yasuda, A. et al. (2006) *Mol Cancer* 5, 46.
4. Pan, P.Y. et al. (2008) *Blood* 111, 219-28.
5. Samayawardhena, L.A. and Pallen, C.J. (2008) *J Biol Chem* 283, 29175-85.
6. Huang, H.M. et al. (2000) *Blood* 96, 1764-71.

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

## Trademarks and Patents



## Limited Uses

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