

Human Stem Cell Factor (hSCF)

<input type="checkbox"/> SC 10 µg (With Carrier)	<input type="checkbox"/> SF 10 µg (Carrier Free)
<input type="checkbox"/> LC 50 µg (With Carrier)	<input type="checkbox"/> LF 50 µg (Carrier Free)

Multi-milligram quantities available

rev. 03/01/10



Cell Signaling
TECHNOLOGY®

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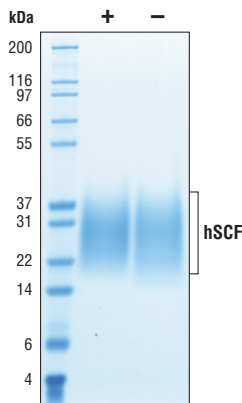
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

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

Molecular Characterization: Recombinant hSCF contains no "tags" and the nonglycosylated protein has a calculated MW of 18,458. DTT-reduced and non-reduced protein migrate as 22-35 kDa polypeptides. Lower mobility and heterogeneity in SDS-PAGE are due to glycosylation. The expected amino-terminal EGICR of recombinant hSCF was verified by amino acid sequencing.

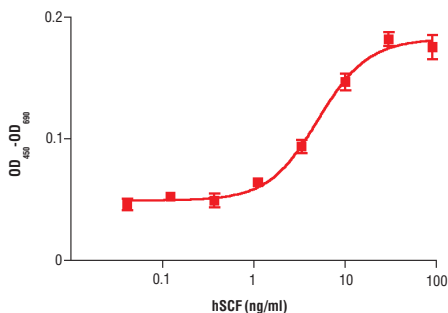
Endotoxin: Less than 0.01 ng endotoxin/1 µg hSCF.

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

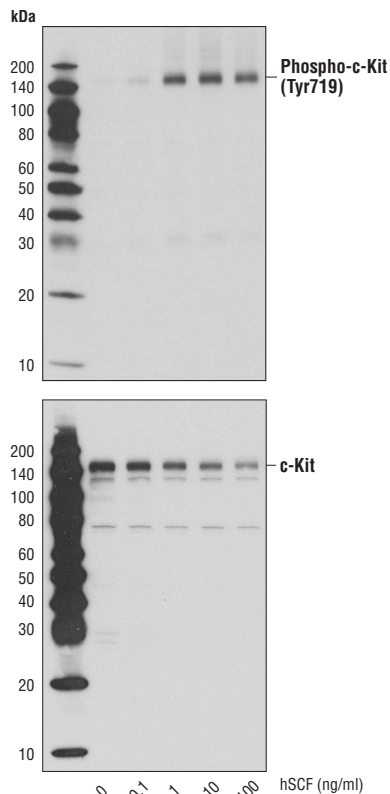


The purity of recombinant hSCF was determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hSCF and staining overnight with Coomassie Blue.

Bioactivity: The bioactivity of recombinant hSCF was determined in a M-07e cell proliferation assay. The ED₅₀ of each lot is between 2-6 ng/ml.



◀ The proliferation of M-07e cells treated with increasing concentrations of hSCF was assessed. After 48 hour treatment with hSCF, cells were incubated with a tetrazolium salt and the OD₄₅₀ - OD₆₅₀ was determined.



Western blot analysis of extracts from M-07e cells untreated or treated with hSCF for 5 minutes, using Phospho-c-Kit (Tyr719) Antibody #3391 (upper) and c-Kit Antibody #3392 (lower)

Formulation: With carrier: Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.2 containing 20 µg BSA per 1 µg hSCF.

Carrier free: Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.2.

Reconstitution:

With carrier: Add sterile PBS or PBS containing 1% bovine or human serum albumin or 5-10% FBS to a final hSCF concentration of greater than 50 µg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.

Carrier free: Add sterile PBS or PBS containing protein to minimize absorption of hSCF to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock hSCF should be greater than 50 µg/ml.

Storage: Stable in lyophilized state at 4°C for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4°C for 2 months and at -20°C for 6 months. Avoid repeated freeze-thaw cycles.

Maintain sterility. Storage at -20°C should be in a manual defrost freezer.

Applications: Optimal concentration for the desired application should be determined by the user.

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).

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.

Material Safety Data Sheet (MSDS) for Human Stem Cell Factor (hSCF)



I. Identification:

Product name: Human Stem Cell Factor (hSCF)
Product Catalog: 8925
CAS#: None
Manufacturer Supplier: Cell Signaling Technology
 3 Trask Lane
 Danvers, MA 01923 USA
 978-867-2300 TEL
 978-867-2400 FAX
 978-578-6737 EMERGENCY TEL

II. Composition/Information:

This product is a lyophilized mixture of substances. According to 29 CFR 1910.1200(d), mixtures with hazardous ingredients at less than <1% and carcinogens at less than < 0.1% are considered non-hazardous.

Substance Name: Human Stem Cell Factor, recombinant

Ingredients:	Carrier-Free	With Carrier	CAS#
Human Stem Cell Factor, hSCF	98%	5%	none
Bovine serum albumin	0%	95%	9048-46-8

III. Hazard Identification:

This product is not for use in humans. It is intended for research purposes only.
 To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been established.

EMERGENCY OVERVIEW: Target organs: Blood, bone marrow. No known hazards.

HMIS Health: 0 Flammability: 0 Reactivity: 0
 NFPA Health: 0 Flammability: 0 Reactivity: 0

IV. First Aid Measures:

Inhalation: If inhaled, remove to fresh air. If breathing is difficult, get medical attention.
Ingestion: If swallowed, wash out mouth with water provided person is conscious. Get medical attention.
Skin exposure: In case of contact, immediately wash skin with soap and water for at least 15 minutes. Remove contaminated clothing. Wash clothing before reuse.
Eye exposure: In case of contact with eyes, immediately flush eyes with water for at least 15 minutes. Get medical attention.

V. Fire Fighting Measures:

Flash Point: Data not available.
Autoignition Temperature: Data not available.
Explosion: Data not available.
Fire extinguishing media: Water spray, dry chemical, alcohol foam, or carbon dioxide.
Firefighting: Wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes. May emit toxic fumes under fire conditions.

VI. Accidental Release Measures: Wear appropriate personal protective equipment. Sweep up material and avoid raising dust. Transfer to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

VII. Handling And Storage:

Store in tightly closed container at -20°C. Avoid inhalation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

VIII. Exposure Controls/Personal:

Ventilation System: A system of local and/or general exhaust is recommended.
Skin Protection: Wear compatible chemical resistant gloves and protective clothing.
Eye protection: Wear protective safety glasses or chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

IX. Physical And Chemical Properties

Appearance: lyophilized powder
pH: data not available
Melting Point: data not available
Boiling Point: data not available
Freezing Point: data not available
Volatile Organic Compounds: data not available
Solubility in water: soluble in phosphate buffered saline

X. Stability and Reactivity:

Stability: Stable under normal conditions.
Conditions/materials to avoid: Data not available
Hazardous Decomposition: No data available.

XI. Toxicological Information:

Acute Effects: Data not available
Chronic Effects: Data not available
Potential Health Effects: Not established.
Inhalation: May be harmful, may be irritating to mucous membranes and upper respiratory tract.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: May be harmful if swallowed.

XII. Ecological Information: No data available.

XIII. Disposal Considerations: Dispose of in accordance with federal, state, local environmental regulations.

XIV. Transport Information:

DOT: This substance is considered Non-Hazardous for transport.
IATA: This substance is considered Non-Hazardous for air transport.

XV. Regulatory Information:

EU Regulations/Classifications/Labeling Information: None.
US Regulatory Information:
SARA Listed: No.
Canada (WHMIS): DSL No, NDSL No.

XVI. Other Information:

This compound is sold only for research use only. It is not for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.