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# SCF Human

*Stem Cell Factor Human Recombinant*
*GRF0369*

## Product Overview

| | |
|---|---|
| Name | SCF Human |
| **Description** | |
| Stem Cell Factor Human Recombinant | |
| Accession (Primary) | P21583 |
| **Synonyms** | |
| Kit ligand Precursor, C-kit ligand, SCF, Mast cell growth factor, MGF, SF, KL-1, Kitl, DKFZp686F2250. | |
| **Introduction** | |
| Stem cell factor / KIT ligand (SCF) is a cytokine which binds CD117(c-Kit). SCF is also known as "steel factor" or "c-kit ligand". 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). | |
| **Source** | |
| Escherichia Coli. | |
| **Physical Appearance** | |
| Sterile Filtered White lyophilized (freeze-dried) powder. | |
| **Formulation** | |
| Lyophilized from a concentrated (1mg/ml) solution in water containing 0.02% NaHCO 3 . | |
| **Stability** | |
| Lyophilized KIT ligand although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution 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 98.0% as determined by: (a) Analysis by SEC-HPLC. (b) Analysis by SDS-PAGE. | |
| **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. | |
| **Biological Activity** | |

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The ED50 as determined by the dose-dependant stimulation of Human TF-1 cells is < 2 ng/ml, corresponding to a Specific Activity of 500,000 IU/mg.

**Solubility**

It is recommended to reconstitute the lyophilized Stem Cell Factor in sterile 18MΩ-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**References**

1. Title :Direct binding of Cbl to Y568 and Y936 of the stem cell factor receptor/c-Kit is required for ligand-induced ubiquitination, internalization and degradation. Publication :Biochemical Journal Immediate Publication. Published on 19 Jun 2006 as manuscript BJ20060464. Link : SCF prospec publication 2. Title :The D816V Mutation of c-Kit Circumvents a Requirement for Src Family Kinases in c-Kit Signal Transduction. Publication : March 5, 2009, doi: 10.1074/jbc.M808058200 April 24, 2009 The Journal of Biological Chemistry, 284, 11039-11047. Link : SCF Human prospec publication 3. Title :Structural Basis for c-KIT Inhibition by the Suppressor of Cytokine Signaling 6 (SOCS6) Ubiquitin Ligase. Publication :First Published on October 28, 2010, doi: 10.1074/jbc.M110.173526 January 7, 2011 The Journal of Biological Chemistry, 286, 480-490. Link : SCF Protein prospec publication 4. Title: Gab2 is involved in differential phosphoinositide 3-kinase signaling by two splice forms of c-Kit Publications: Journal of Biological Chemistry 283.41 (2008): 27444-27451. Link: Stem Cell Factor prospec publication

**Protein content**

Protein quantitation was carried out by two independent methods 1. UV spectroscopy at 280 nm using the absorbency value of 0.52 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a standard solution of Stem Cell Factor as a Reference Standard.

**Precautions**

SCF Human is for research use only and not for use in diagnostic or therapeutic procedures.

## Target Information: ( P21583 )