

# Human SCF / KITLG (26-189) Protein, Research Grade

Catalog # SCF-H5218



BIOSYSTEMS  
**Acro**

## Features and Advantages

- Native Conformation: Native sequences, tag-free and natural function.
- Reliable Activity: Biological activity calibrated against WHO/NIBSC standards.
- Stringent Quality Control: Protein content, purity, and cell-based bioactivity testing for each batch.
- Lowest Endotoxin level (<0.01 EU/ug).
- Safety Assurance: Sterile filtration through 0.2 µm membrane.
- AOF: Animal origin-free raw materials throughout the production process.

## Synonym

KITLG, FPH2, KL-1, Kitl, MGF, SCF, SF, SHEP7, KL

## Source

Human SCF (26-189) Protein, Research Grade (SCF-H5218) is expressed from human 293 cells (HEK293). It contains AA Glu 26 - Ala 189 (Accession # [P21583-1](#)).

Predicted N-terminus: Glu 26

## Molecular Characterization

SCF(Glu 26 - Ala 189)  
P21583-1

This protein carries no "tag".

The protein has a calculated MW of 18.5 kDa. The protein migrates as 30 kDa±3 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

## Endotoxin

Less than 0.01 EU per µg by the LAL method / rFC method.

## Purity

>95% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

## Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

## Reconstitution

Please see Certificate of Analysis for specific instructions.

**For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.**

## Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

**Please avoid repeated freeze-thaw cycles.**

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## ACRO Quality Management System

- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

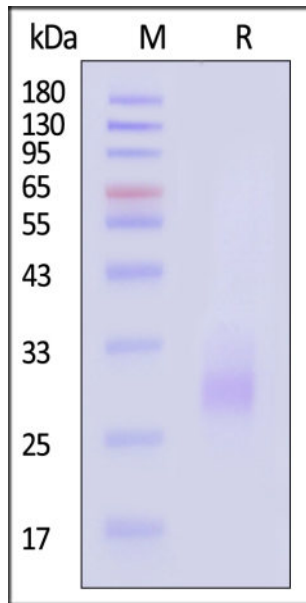
## Quality Description

ACRO's **Research-grade** products are suitable for a wide range of cell culture applications, particularly for research use in academic institutions. These products are sterilized by filtration, followed by lyophilization where applicable. Typical specifications include endotoxin levels of <0.01 EU/

µg and purities >95%. Biological activity is calibrated against WHO/NIBSC standards when available.

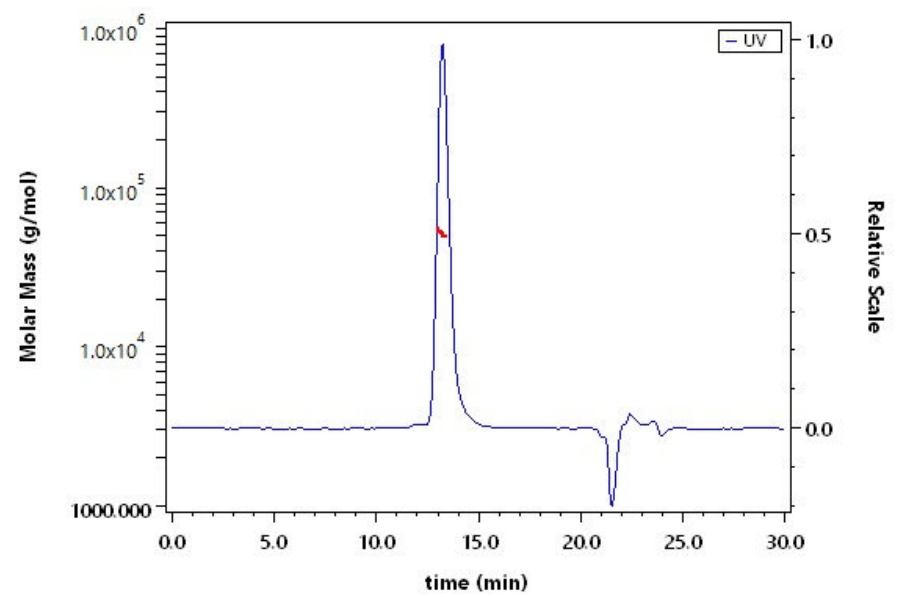
**ACRO's Premium-grade (Pre-GMP)** products are characterized by their high quality and enhanced safety profiles, making them ideal for early-stage discovery and manufacturing processes in cell therapy companies. A key advantage is their seamless transition to corresponding GMP-grade versions. Biological activity is calibrated against WHO/NIBSC standards when available. Typical specifications include endotoxin levels of <0.01 EU/µg and purities >95%. In addition, rigorous testing is conducted to ensure the absence of mycoplasma, HCD, and HCP, thereby guaranteeing product safety.

## SDS-PAGE



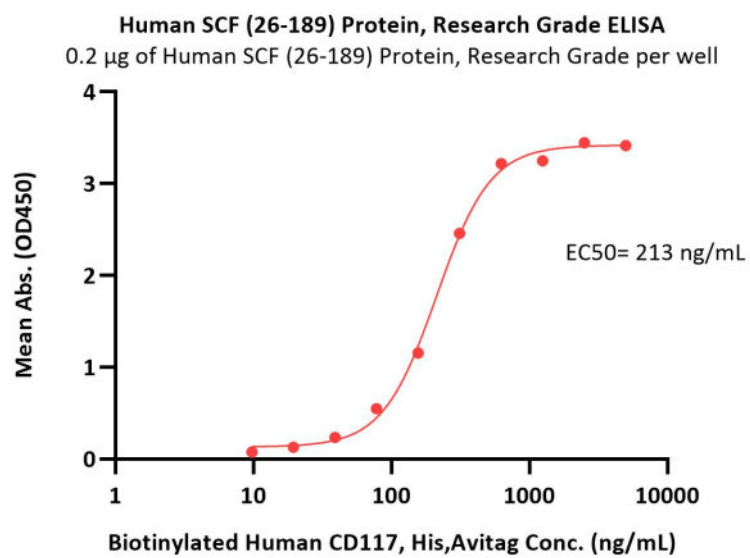
Human SCF (26-189) Protein, Research Grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

## SEC-MALS



The purity of Human SCF (26-189) Protein, Research Grade (Cat. No. SCF-H5218) is more than 95% and the molecular weight of this protein is around 46-56 kDa verified by SEC-MALS.

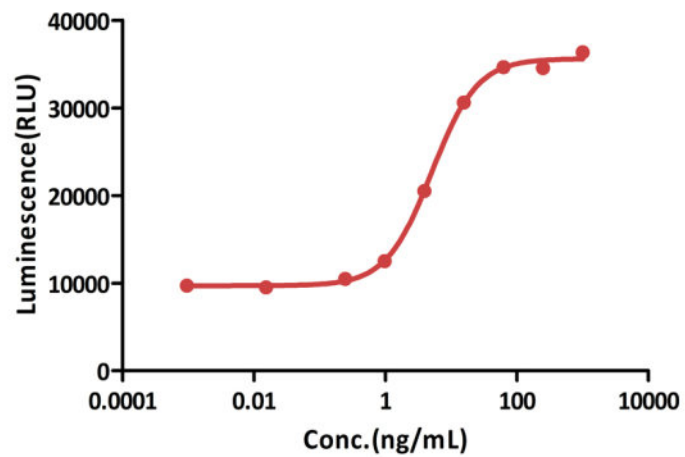
## Bioactivity-ELISA



Immobilized Human SCF (26-189) Protein, Research Grade (Cat. No. SCF-H5218) at 2 µg/mL (100 µL/well) can bind Biotinylated Human CD117, His,Avitag (Cat. No. CD7-H82E6) with a linear range of 10-312 ng/mL (QC tested).

## Bioactivity-CELL BASE

Human SCF (26-189) Protein, Research Grade stimulates proliferation of Mo7e cells



Human SCF (26-189) Protein, Research Grade (Cat. No. SCF-H5218) stimulates proliferation of Mo7e cells. The specific activity of Human SCF (26-189) Protein, Research Grade is  $> 6.00 \times 10^5$  IU/mg, which is calibrated against human SCF WHO International Standard (NIBSC code: 91/682) (QC tested).

## Background

Stem Cell Factor is also known as SCF, kit-ligand, KL, steel factor, KITLG, FPH2, KL-1, Kitl, MGF, SCF, SF, or SHEP7, and is a cytokine that binds to the c-Kit receptor (CD117). SCF can exist both as a transmembrane protein and a soluble protein. This cytokine plays an important role in hematopoiesis (formation of blood cells), spermatogenesis, and melanogenesis. The soluble and transmembrane forms of the protein are formed by alternative splicing of the same R transcript. Soluble and transmembrane SCF is produced by fibroblasts and endothelial cells. Soluble SCF has a molecular weight of 18,5 KDa and forms a dimer. SCF plays an important role in the hematopoiesis during embryonic development. Sites where hematopoiesis takes place, such as the fetal liver and bone marrow, all express SCF. During development, the presence of the SCF also plays an important role in the localization of melanocytes, cells that produce melanin and control pigmentation. SCF plays a role in the regulation of HSCs in the stem cell niche in the bone marrow. SCF may be used along with other cytokines to culture HSCs and hematopoietic progenitors. The expansion of these cells ex-vivo (outside the body) would allow advances in bone-marrow transplantation, in which HSCs are transferred to a patient to re-establish blood formation.

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