



CTGrade GMP rh SCF

Catalog #	Product	Size
500-02	CTGrade GMP rh SCF	50µg, 100µg, 1mg lyophilized

Intended Use

This product is for research or further manufacturing use only. Not for injection or diagnostic procedures. The safety and efficacy of this product in diagnostic or other clinical procedures has not been established.

Product Description

This product is produced from *E. coli* and is manufactured in a facility that does not use or process beta-lactam containing materials. No animal- or human-derived materials were used during manufacturing or as ingredients. As such, the risk for BSE/TSE contamination can be considered negligible. This product is manufactured, tested, and released in an ISO 9001:2015 certified facility and follows cGMP practices. USP chapter <1043> for ancillary materials has been considered in the manufacture of this product.

Synonyms: c-Kit Ligand, KL, Steel Factor, MGF

NIH Accession Number: P21583

Background: Stem cell factor is a multipotent factor which affects cells of the myeloid, erythroid, mast and lymphoid lineages (1). It exists as a membrane and soluble form and is expressed by fibroblasts and endothelial cells promoting proliferation, migration, survival, and differentiation of hematopoietic progenitors, melanocytes, and germ cells (1, 2, 3). SCF also promotes mast cell secretory function (4) chemotaxis (5) and adhesion (6) and can enhance secretion of mediators in response to IgE-dependent activation (7, 8).



Specifications

Formulation:	CTGrade GMP rh SCF is lyophilized from a 0.2 µm filtered solution containing 10mM Sodium Phosphate, 50mM Sodium Chloride, pH 7.5
Protein Purity:	≥97% determined by reducing and non-reducing SDS-PAGE analysis.
Endotoxin:	<0.05 EU/µg using USP <85>/ EP 2.6.14
Bioactivity:	ED50 is determined by the dose-dependent Proliferation of TF-1 cells. The ED50 is typically less than 15 ng/mL. The international units of CTGrade GMP rh SCF is approximately 1.0 x10 ³ IU/µg, which is calibrated against recombinant Human Stem Cell Factor WHO International Standard (NIBSC code 91/682).
Quality:	Carrier-free and no animal- or human-derived materials were used during manufacturing.

Quality Assurance

All quality control test results are reported on a lot specific Certificate of Analysis, which is available at <https://fujifilmbiosciences.fujifilm.com/> or upon request.

Shipping

This product is shipped at ambient temperature. Immediately upon receipt, store at the recommended temperature below.

Storage Instructions and Stability

Upon receipt, store the lyophilized protein at -20°C in a manual defrost freezer. Unopened vials are stable for 36 months from the date of manufacture. Reconstituted material should be apportioned in working volumes and stored at or below -20°C in manual defrost freezer.

For short term storage reconstituted material is stable for 4-6 weeks when stored at 2-8°C. Stability can be increased by adding at least 0.1% carrier protein.

Precautions

For *ex vivo* use only. Not for injection or diagnostic procedures. The safety and efficacy of this product in diagnostic or other clinical uses has not been established. Please refer to the Safety Data Sheet for information regarding hazards and safe handling practices.



Directions for Use

1. Reconstitution

Allow the vial and sterile water (e.g. FUJIFILM Biosciences Inc. P/N 9309 Water for Injection) to equilibrate to room temperature. Draw up desired volume of reconstitution buffer. Aseptically puncturing through rubber stopper with sterile needle, inject the buffer to achieve the desired concentration (0.1-0.5 mg/mL). Swirl the vial gently, **do not vortex**. Allow protein to rehydrate for 10-15 minutes at room temperature with occasional gentle mixing.

2. Optimum Concentration

The optimum concentration varies depending on cell type and culture conditions. Working concentration should be determined for each specific application.

Related Products

Catalog #	Product	Size
91211	PRIME-XV MSC Expansion XSFM	500mL
9142	Alpha MEM Earle's Salts w/o Nucleosides	100mL, 500mL
9144	Alpha MEM Earle's Salts	100 mL, 500mL
9309	Water for Injection	1L

References

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3. KM Zsebo, DA Williams, EN Geissler, VC Broudy, FH Martin, HL Atkins, R-Y Hsu, NC Birkett, KH Okino, DC Murdock, FW Jacobsen, KE Langley, KA Smith, T Takeishi, BM Cattnach, SJ Galli, SV Suggs Stem cell factor is encoded at the Sl locus of the mouse and is the ligand for the c-kit tyrosine kinase receptor Cell, 63 (1990), p. 213
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5. CJ Meininger, H Yano, R Rottapel, A Bernstein, KM Zsebo, BR Zetter The c-kit receptor ligand functions as a mast cell chemoattractant Blood, 79 (1992), p. 958
6. J Dastyh, DD Metcalfe Stem cell factor induces mast cell adhesion to fibronectin J Immunol, 152 (1994), p. 213
7. M Columbo, EM Horowitz, LM Botana, DW MacGlashan Jr, BS Bochner, S Gillis, KM Zsebo, SJ Galli, LM Lichtenstein The human recombinant c-kit receptor ligand, rhSCF, induces mediator release from human cutaneous mast cells and enhances IgE-dependent mediator release from both skin mast cells and peripheral blood basophils. J Immunol, 149 (1992), p. 599
8. SC Bischoff, CA Dahinden c-kit ligand: A unique potentiator of mediator release by human lung mast cells J Exp Med, 175 (1992), p. 237



Technical Support

CONTACT US

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WEBSITE RESOURCES

Visit the website at <https://fujifilmbiosciences.fujifilm.com/> for technical resources and information including:

- Safety Data Sheets (SDS)
- Certificate of Analysis (CoA) (when available)
- FAQs
- Product literature

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