Cell Therapy Systems
Recombinant Human CTS™ Stem Cell Factor (SCF)
PRODUCT ANALYSIS SHEET

Catalog Number:	CTP2111	CTP2113
Quantity:	100 µg	1 mg

Lot Number: See product label

Molecular Weight: 18.5 kDa

Purity: >95% as determined by SDS-PAGE analysis.

Amino Acid Sequence: EGICRNRVTN NVKDVTKLVA NLPKDYMITL KYVPGMDVLP SHCWISEMVV QLSDSLTDLL DKFSNISEGL SNYSIIDKLV NIVDDLVECV KENSSKDLKK SFKSPEPRLF TPEEFFRIFN RSIDAFKDFV VASETSDCVV SSTLSPEKDS RVSVTKPFML PPVA

Biological Activity: ED_{50} range = 2 to 10 ng/mL (Specific Activity: 5 x 10^5 to 1 x 10^5 units/mg), determined by the dose dependent proliferation of human MO-7e cells. The optimal concentration for each specific application should be determined by an initial dose response assay.

Formulation: Lyophilized, carrier free.

Sterility: Filtered prior to lyophilization through a 0.22 micron sterile filter.

Endotoxin: <0.1 ng/µg

Production: Recombinant human SCF is produced in *E. coli* and purified via sequential chromatography.

Reconstitution Recommendation: We recommend that the vial be briefly centrifuged prior to opening to bring the contents to the bottom. Lyophilized human SCF should be reconstituted in sterile deionized water to 0.1 to 1.0 mg/mL to regain full activity. These stock solutions should be apportioned into working aliquots and stored at ≤ –20°C. Further dilutions should be made in low endotoxin medium or buffered solution with FBS or tissue culture grade BSA. It is recommended that all culture media containing supplements, such as growth factor, be sterile filtered prior to use for cell, gene, or tissue-based applications to minimize risk of contamination.

Suggested Working Dilutions: The optimal concentration should be determined for each specific application.

Storage: Lyophilized human SCF should be stored at 2 to 8°C, preferably desiccated. Store reconstituted human SCF at ≤ –20°C (not in a frost-free freezer). Keep freeze-thaw cycles to a minimum.

Expiration Date: Expires one year from date of receipt when stored as instructed.

References:

Martin, F., et al. (1990) Primary structure and functional expression of rat and human stem cell factor DNAs. Cell 63(1):203-211.

Nocka, K., et al. (1990) Candidate ligand for the c-kit transmembrane kinase receptor: KL, a fibroblast derived growth factor stimulates mast cells and erythroid progenitors. EMBO J. 9(10):3287-3294.

deVries, P., et al. (1991) The effect of recombinant mast cell growth factor on purified murine hematopoietic stem cells. J. Exp. Med. 173(5):1205-1211.

For Research Use or Non-Commercial Manufacturing of Cell Based Products for Clinical Research.
CAUTION: Not intended for direct administration into humans or animals

www.invitrogen.com

Manufactured under ISO 13485 Quality Standard

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288
For technical support or support related to CTS™ products, www.invitrogen.com/celltherapysupport

References:

Anzai, N., et al. (2002) c-kit associated with the transmembrane 4 superfamily proteins constitutes a functionally distinct subunit in human hematopoietic progenitors. Blood 99(12):4413-4421.

Dao, M.A., et al. (1998) Reduction in levels of the cyclin-dependent kinase inhibitor p27(kip-1) coupled with transforming growth factor beta neutralization induces cell-cycle entry and increases retroviral transduction of primitive human hematopoietic cells. Proc. Nat'l. Acad. Sci. U S A 95(22):13006-13011.

Duarte, R.F. and D.A. Frank (2000) SCF and G-CSF lead to the synergistic induction and gene expression through complementary signaling pathways. Blood 96(10):3422-3430.

Le, P.T., et al. (2001) Human thymic epithelial cells inhibit IL-15-and IL-2-driven differentiation of NK cells from the early human thymic progenitors. J. Immunol. 166 (4):2194-2201.

Kijima, T., et al. (2002) Regulation of cellular proliferation, cytoskeletal function, and signal transduction through CXCR4 and c-kit in small cell lung cancer cells. Cancer Research 62(21):6304-6311.

Dao, M.A., et al. (2002) Molecular mechanism of transforming growth factor beta-mediated cell-cycle modulation in primary human CD34(+) progenitors. Blood 99(2):499-506.

Explanation of symbols

Symbol	Description	Symbol	Description
REF	Catalogue Number	LOT	Batch code
RUO	Research Use Only	IVD	*In vitro* diagnostic medical device
	Use by		Temperature limitation
	Manufacturer	EC REP	European Community authorised representative
[-]	Without, does not contain	[+]	With, contains
	Protect from light		Consult accompanying documents
	Directs the user to consult instructions for use (IFU), accompanying the product.		

For Research Use or Non-Commercial Manufacturing of Cell Based Products for Clinical Research.
CAUTION: Not intended for direct administration into humans or animals

www.invitrogen.com

Manufactured under ISO 13485 Quality Standard

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288
For technical support or support related to CTS™ products, www.invitrogen.com/celltherapysupport

invitrogen™