

TECHNICAL DATA SHEET

Recombinant Mouse Stem Cell Factor (SCF) (Carrier-free)

Catalog Number: 21-8341

RPx-Pro™ Recombinant Protein
PRODUCT INFORMATION

CONTENTS

Recombinant Mouse Stem Cell Factor (SCF) (Carrier-free)

DESCRIPTION

SCF, or c-kit ligand or steel factor, is a hematopoietic growth factor that exerts its activity by signaling through CD117, the c-Kit receptor. Soluble and transmembrane SCF is produced by a variety of cells including fibroblasts and endothelial cells and is critical for driving HSC survival, proliferation and differentiation. SCF potentially effects stem cell niche or microenvironment of stem cell location affecting HSC maintenance and along with SDF-1, allows stem cells to relocate into the niche. SCF plays a role in hematopoiesis, spermatogenesis, melanocyte development and other developmental activities. In vitro SCF and c-Kit also increase megakaryocyte development. SCF has clinical value for bone marrow transplantation but also enhances allergic reactions due to mast cell expansion through the CD117 c-kit receptor.

MOLECULAR MASS

Recombinant Mouse SCF is an 18.3 kDa polypeptide containing 164 amino acid residues, identical to the sequence of secreted soluble form of SCF.

AMINO ACID SEQUENCE

MKEICGNPVT DNVKDITKLV ANLPNDYMIT LNYVAGMDVL PSHCWLRDMV IQLSLSLTTL LDKFSNISEG LSNYSIIDKL GKIVDDLVLV
 MEENAPKNIK ESPKRPETRS FTPEEFFSIF NRSIDAFKDF MVASDTSDCV LSSTLGPEKD SRVSVTKPFM LPPVA

SOURCE

E. Coli

APPLICATIONS

Bioassay

PURITY

98 %

STORAGE

-20°C

PROTEIN CONTENT

Content Verified by UV Spectroscopy and/or SDS-PAGE

ENDOTOXIN LEVEL

Endotoxin level is <0.1 ng/μg of protein (<1 EU/μg).

AUTHENTICITY

Verified by N-terminal and Mass Spectrometry analyses (when applicable).

CROSS REACTIVITY

Human, Monkey, Rat

BIOACTIVITY

The ED₅₀ is <10 ng/ml, corresponding to a specific activity of >1 x 10⁵ units/mg calculated by stimulation of the proliferation of human TF-1 cells.

RESEARCH AREAS

Cell Culture, Proliferation, Stem Cells and Differentiation

RECONSTITUTION

See Certificate of Analysis (COA) for lot specific reconstitution information.

REFERENCES

Langley KE, LG Bennett, J Wypych, SA Yancik, XD Liu, KR Westcott, DG Chang, KA Smith and KM Zsebo 1993 Blood 81: 656–660. Broudy VC 1997 Blood 90: 1345–1364. Wehrle-Haller B 2003 Pigment Cell Res. 16: 287–296. Rossi P, C Sette, S Dolci and R Geremia 2000 J Endocrinol Invest 23: 609–615. Nervi B, DC Link and JF DiPersio 2006 J Cell Biochem 99: 690–705. Keller JR, M Ortiz and FW Ruscetti 1995 Blood 86: 1757–1764.

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