SANTA CRUZ BIOTECHNOLOGY, INC.

SCF (m): 293T Lysate: sc-123381

BACKGROUND

Stem cell factor (SCF) is the ligand for the transmembrane tyrosine kinase receptor proto-oncogene c-Kit. SCF, also designated KL, MGF and SLF, is a pleiotropic cytokine that has two alternatively spliced forms; 248 and 220 amino acids in length in human and mouse systems, respectively. Both the larger form and the smaller form are cleaved to produce soluble forms. The smaller splice variant lacks the proteolytic cleavage site, between amino acids 149 and 177 of the larger SCF form. The larger form of SCF is expressed in fibroblasts, brain and thymus, while the smaller form is found in spleen, testis, placenta and cerebellum. The SCF ligand is essential for the development of germ cells, hematopoietic progenitor cells and melanocyte precursors. SCF can stimulate the proliferation of mature mast cells as well as the maturation and proliferation of immature mast cells.

REFERENCES

1. Copeland, N.G., Gilbert, D.J., Cho, B.C., Donovan, P.J., Jenkins, N.A., Cosman, D., Anderson, D., Lyman, S.D. and Williams, D.E. 1990. Mast cell growth factor maps near the steel locus on mouse chromosome 10 and is deleted in a number of steel alleles. Cell 63: 175-183.
2. Martin, F.H., Suggs, S.V., Langley, K.E., Lu, H.S., Ting, J., Okino, K.H., Morris, C.F., McNiece, I.K., Jacobsen, F.W., Mendiaz, E.A., et al. 1990. Primary structure and functional expression of rat and human stem cell factor DNAs. Cell 63: 203-211.
3. Huang, E.J., Nocka, K.H., Buck, J. and Besmer, P. 1992. Differential expression and processing of two cell associated forms of the Kit-ligand: KL-1 and KL-2. Mol. Biol. Cell 3: 349-362.
4. Pandiella, A., Bosenberg, M.W., Huang, E.J., Besmer, P. and Massague, J. 1992. Cleavage of membrane-anchored growth factors involves distinct protease activities regulated through common mechanisms. J. Biol. Chem. 267: 24028-24033.
5. Toksoz, D., Zsebo, K.M., Smith, K.A., Hu, S., Brankow, D., Suggs, S.V., Martin, F.H. and Williams, D.A. 1992. Support of human hematopoiesis in long-term bone marrow cultures by murine stromal cells selectively expressing the membrane-bound and secreted forms of the human homolog of the steel gene product, stem cell factor. Proc. Natl. Acad. Sci. USA 89: 7350-7354.
6. Agis, H., Willheim, M., Sperr, W.R., Wilfing, A., Kromer, E., Kabrna, E., Spanblochl, E., Strobl, H., Geissler, K., Spittler, A., Boltz-Nitulescu, G., Majdic, O., Lechner, K. and Valent, P. 1993. Monocytes do not make mast cells when cultured in the presence of SCF. Characterization of the circulating mast cell progenitor as a c-Kit^{+}, CD34^{+}, Ly^{-}, CD14^{-}, CD17^{-}, colony-forming cell. J. Immunol. 151: 4221-4227.

CHROMOSOMAL LOCATION

Genetic locus: Kitl (mouse) mapping to 10 D1.

PRODUCT

SCF (m): 293T Lysate represents a lysate of mouse SCF transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

SCF (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SCF antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.