SANTA CRUZ BIOTECHNOLOGY, INC.

Ang-1 (C5): sc-517593

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Tie-1 and Tie-2 (also designated Tek) are novel cell surface receptor tyrosine kinases. The extracellular domain of Tie-1 has an unusual multidomain structure consisting of a cluster of three epidermal growth factor homology motifs localized between two immunoglobulin-like loops, which are followed by three Fibronectin type III repeats next to the transmembrane region. Angiopoietin-1 (Ang-1) is a secreted ligand for Tie-2. Preliminary biochemical analyses of Ang-1 reveal a potential Fibrinogen-like domain at the carboxy terminus and coiled-coil regions in the amino terminus. Ang-1 is an angiogenic factor that is thought to be involved in endothelial development. A related protein, angiopoietin-2 (Ang-2), has been identified as a naturally occurring antagonist of Ang-1 activation of Tie-2. In adult tissue, Ang-2 expression seems to be restricted to sites of vascular remodeling.

REFERENCES

1. Partanen, J., et al. 1992. A novel endothelial cell surface receptor tyrosine kinase with extracellular epidermal growth factor homology domains. Mol. Cell. Biol. 12: 1698-1707.
2. Dumont, D.J., et al. 1992. Tek, a novel tyrosine kinase gene located on mouse chromosome 4, is expressed in endothelial cells and their presumptive precursors. Oncogene 7: 1471-1480.
3. Sato, T.N., et al. 1993. Tie-1 and Tie-2 define another class of putative receptor tyrosine kinase genes expressed in early embryonic vascular system. Proc. Natl. Acad. Sci. USA 90: 9355-9358.
4. Dumont, D.J., et al. 1993. The endothelial-specific receptor tyrosine kinase, Tek, is a member of a new subfamily of receptors. Oncogene 8: 1293-1301.
5. Davis, S., et al. 1996. Isolation of angiopoietin-1, a ligand for the TIE2 receptor, by secretion-trap expression cloning. Cell 87: 1161-1169.
6. Maisonpierre, P.C., et al. 1997. Angiopoietin-2, a natural antagonist for Tie2 that disrupts *in vivo* angiogenesis. Science 277: 55-60.

CHROMOSOMAL LOCATION

Genetic locus: ANGPT1 (human) mapping to 8q23.1.

SOURCE

Ang-1 (C5) is a mouse monoclonal antibody raised against recombinant Ang-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 5% glycerol.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Ang-1 (C5) is recommended for detection of angiopoietin-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Ang-1 siRNA (h): sc-39303, Ang-1 shRNA Plasmid (h): sc-39303-SH and Ang-1 shRNA (h) Lentiviral Particles: sc-39303-V.

Molecular Weight of Ang-1: 60 kDa.

SELECT PRODUCT CITATIONS

1. Fathi, E., et al. 2020. Cardiac differentiation of bone-marrow-resident c-Kit$^+$ stem cells by L-carnitine increases through secretion of VEGF, IL6, IGF-1, and TGF-β as clinical agents in cardiac regeneration. J. Biosci. 45: 92.
2. Goryszewska, E., et al. 2021. Pleiotropic role of prokineticin 1 in the porcine endometrium during pregnancy establishment and embryo implantation. Biol. Reprod. 104: 181-196.
3. Scuderi, S.A., et al. 2021. KYP-2047, an inhibitor of prolyl-oligopeptidase, reduces glioblastoma proliferation through angiogenesis and apoptosis modulation. Cancers 13: 3444.
4. Divband, B., et al. 2022. Towards induction of angiogenesis in dental pulp stem cells using chitosan-based hydrogels releasing basic fibroblast growth factor. Biomed Res. Int. 2022: 5401461.
5. Alipour, M., et al. 2022. MTA-enriched polymeric scaffolds enhanced the expression of angiogenic markers in human dental pulp stem cells. Stem Cells Int. 2022: 7583489.

RESEARCH USE

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