SANTA CRUZ BIOTECHNOLOGY, INC.

Ang-4 (M-18): sc-9355

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Angiopoietin-1 (Ang-1) is a secreted ligand for Tie-2, a cell surface receptor tyrosine kinase expressed in endothelial and hemopoietic cells. Ang-1 is an angiogenic factor that mediates blood vessel maturation and may be involved in endothelial development. A related protein, angiopoietin-2 (Ang-2), is a naturally occurring antagonist of Ang-1 activation of Tie-2. In adult tissue, Ang-2 expression is restricted to sites of vascular remodeling. Ang-3 and Ang-4 represent the mouse and human counterparts of the same gene locus. The structural divergence of Ang-3 and Ang-4 cause their divergent functions. Ang-3 and Ang-4 have very different distributions in their respective species, and Ang-3 appears to act as an antagonist while Ang-4 appears to function as an agonist. Ang-3 and Ang-4 share all the main structural characteristics of Ang-1 and Ang-2 and are homologous throughout the signal peptide, N-terminal region, coiled-coil segment and Fibrinogen-like domain.

REFERENCES

1. 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.
2. 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.
3. 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.
4. Davis, S., et al. 1996. Isolation of angiopoietin-1, a ligand for the Tie-2 receptor, by secretion-trap expression cloning. Cell 87: 1161-1169.
5. Maisonpierre, P.C., et al. 1997. Angiopoietin-2, a natural antagonist for Tie-2 that disrupts *in vivo* angiogenesis. Science 277: 55-60.
6. Kim, I., et al. 1999. Molecular cloning and characterization of a novel angiopoietin family protein, angiopoietin-3. FEBS Lett. 443: 353-356.
7. Valenzuela, D.M., et al. 1999. Angiopoietins 3 and 4: diverging gene counterparts in mice and humans. Proc. Natl. Acad. Sci. USA 96: 1904-1909.
8. Tse, V., et al. 2003. The temporal-spatial expression of VEGF, angiopoietins-1 and 2, and Tie-2 during tumor angiogenesis and their functional correlation with tumor neovascular architecture. Neurol. Res. 7: 729-38.

CHROMOSOMAL LOCATION

Genetic locus: Angpt4 (mouse) mapping to 2 G3.

SOURCE

Ang-4 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Ang-4 of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9355 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ang-4 (M-18) is recommended for detection of Ang-4 (formerly designated Ang-3) of mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

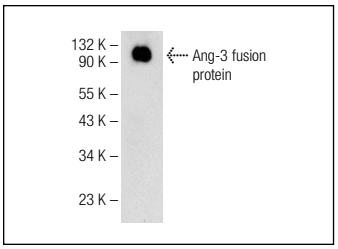
Suitable for use as control antibody for Ang-4 siRNA (m): sc-39310, Ang-4 shRNA Plasmid (m): sc-39310-SH and Ang-4 shRNA (m) Lentiviral Particles: sc-39310-V.

Molecular Weight of Ang-4: 58 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Ang-4 (M-18): sc-9355. Western blot analysis of mouse recombinant Ang-3 fusion protein.

RESEARCH USE

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

PROTOCOLS

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