

Ang-4 (A-6): sc-377497

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

- 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.
- 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.
- 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.
- Davis, S., et al. 1996. Isolation of angiopoietin-1, a ligand for the TIE2 receptor, by secretion-trap expression cloning. *Cell* 87: 1161-1169.
- Maisonpierre, P.C., et al. 1997. Angiopoietin-2, a natural antagonist for Tie2 that disrupts *in vivo* angiogenesis. *Science* 277: 55-60.
- Kim, I., et al. 1999. Molecular cloning and characterization of a novel angiopoietin family protein, angiopoietin-3. *FEBS Lett.* 443: 353-356.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: ANGPT4 (human) mapping to 20p13; Angpt4 (mouse) mapping to 2 G3.

SOURCE

Ang-4 (A-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 5-41 near the N-terminus of Ang-4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377497 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Ang-4 (A-6) is recommended for detection of Ang-4 (formerly designated Ang-3) of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (h): sc-39309, Ang-4 siRNA (m): sc-39310, Ang-4 shRNA Plasmid (h): sc-39309-SH, Ang-4 shRNA Plasmid (m): sc-39310-SH, Ang-4 shRNA (h) Lentiviral Particles: sc-39309-V and Ang-4 shRNA (m) Lentiviral Particles: sc-39310-V.

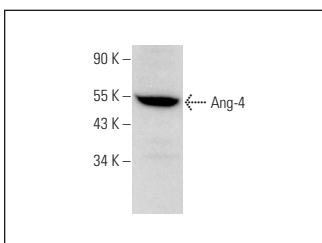
Molecular Weight of Ang-4: 58 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176.

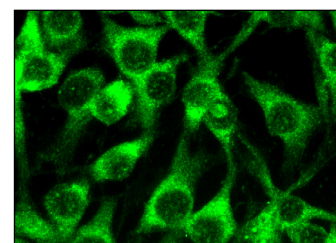
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Ang-4 (A-6): sc-377497. Western blot analysis of Ang-4 expression in U-251-MG whole cell lysate.



Ang-4 (A-6): sc-377497. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Lee, S.H., et al. 2020. Change of Ras and its guanosine triphosphatases (GTPases) during development and regression in bovine corpus luteum. *Theriogenology* 144: 16-26.

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.