SANTA CRUZ BIOTECHNOLOGY, INC.

ANG I (H-123): sc-9044

BACKGROUND

Angiogenesis is defined as the process of neovascularization and formation of new blood vessels from the established micro-circulation. Angiogenin, or ANG, is a 14 kDa non-glycosylated polypeptide, 123 amino acids in length, whose function is central to this process. Angiogenin shows a high degree of homology with known ribonucleases such as pancreatic ribonuclease A, and the capacity of angiogenin to induce blood vessel growth is critically dependent on its ribonucleolytic activity. Angiogenin is thought to be involved in the development of solid tumors, and angiogenin antagonists are capable of inhibiting tumor growth. By a poorly understood mechanism, angiogenin is endocytosed by subconfluent endothelial cells and translocated to the nucleus where it accumulates in the nucleolus. The angiogenin receptor has not yet been identified.

REFERENCES

1. Weremowicz, S., et al. 1989. Assignment of human angiogenin gene to chromosome 14q11-q13. Cytogenet. Cell Genet. 51: 1107.
2. Weremowicz, S., et al. 1990. Localization of the human angiogenin gene to chromosome band 14q11, proximal to the T cell receptor α/δ locus. Am. J. Hum. Genet. 47: 973-981.
3. Diaz-Flores, L., et al. 1994. Angiogenesis: an update. Histol. Histopathol. 9: 807-843.
4. Hu, G., et al. 1994. Angiogenin promotes invasiveness of cultured endothelial cells by stimulation of cell-associated proteolytic activities. Proc. Natl. Acad. Sci. USA 91: 12096-12100.
5. Reisdorf, C., et al. 1994. Proton resonance assignments and secondary structure of bovine angiogenin. Eur. J. Biochem. 224: 811-822.
6. Moroianu, J., et al. 1994. Identification of the nucleolar targeting signal of human angiogenin. Biochem. Biophys. Res. Commun. 203: 1765-1772.
7. Olson, K.A., et al. 1995. Angiogenin antagonists prevent tumor growth *in vivo*. Proc. Natl. Acad. Sci. USA 92: 442-446.
8. Cockerill, G.W., et al. 1995. Angiogenesis: models and modulators. Intl. Rev. Cytol. 159: 113-160.

CHROMOSOMAL LOCATION

Genetic locus: ANG (human) mapping to 14q11.1-q11.2; Ang1 (mouse) mapping to 14 B-C1.

SOURCE

ANG I (H-123) is a rabbit polyclonal antibody raised against amino acids 25-147 of ANG I of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

ANG I (H-123) is recommended for detection of precursor and mature ANG I of mouse, rat and 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

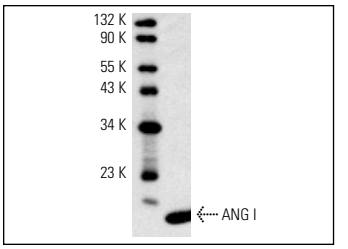
Suitable for use as control antibody for ANG I siRNA (h): sc-39291, ANG I shRNA Plasmid (h): sc-39291-SH and ANG I shRNA (h) Lentiviral Particles: sc-39291-V.

Molecular Weight of ANG I: 14 kDa.

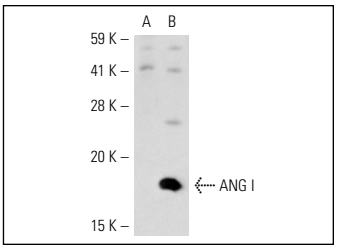
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ANG I (H-123): sc-9044. Western blot analysis of human recombinant ANG I.



ANG I (H-123): sc-9044. Western blot analysis of ANG I expression in non-transfected: sc-117750 (**A**) and human ANG I transfected: sc-110020 (**B**) CHO whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wulff, C., et al. 2002. Hemochorial placentation in the primate: expression of vascular endothelial growth factor, angiopoietins, and their receptors throughout pregnancy. Biol. Reprod. 66: 802-812.
2. Chakrabarti, J., et al. 2004. The transcription factor DEC1 (Stra13, SHARP2) is associated with the hypoxic response and high tumour grade in human breast cancers. Br. J. Cancer. 91: 954-958.
3. Campo, L., et al. 2005. Angiogenin is up-regulated in the nucleus and cytoplasm in human primary breast carcinoma and is associated with markers of hypoxia but not survival. J. Pathol. 205: 585-591.