SANTA CRUZ BIOTECHNOLOGY, INC.

ANG I (C-1): sc-74528

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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

CHROMOSOMAL LOCATION

Genetic locus: ANG (human) mapping to 14q11.2; Ang (mouse) mapping to 14 C1.

SOURCE

ANG I (C-1) is a mouse monoclonal antibody raised against amino acids 25-147 of ANG I of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ANG I (C-1) is available conjugated to agarose (sc-74528 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74528 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74528 PE), fluorescein (sc-74528 FITC), Alexa Fluor® 488 (sc-74528 AF488), Alexa Fluor® 546 (sc-74528 AF546), Alexa Fluor® 594 (sc-74528 AF594) or Alexa Fluor® 647 (sc-74528 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74528 AF680) or Alexa Fluor® 790 (sc-74528 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ANG I (C-1) is recommended for detection of precursor and mature ANG I 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 I siRNA (h): sc-39291, ANG I siRNA (m): sc-39292, ANG I shRNA Plasmid (h): sc-39291-SH, ANG I shRNA Plasmid (m): sc-39292-SH, ANG I shRNA (h) Lentiviral Particles: sc-39291-V and ANG I shRNA (m) Lentiviral Particles: sc-39292-V.

Molecular Weight of ANG I: 14 kDa.

Positive Controls: ANG I (h): CHO Lysate: sc-110020, rat lung extract: sc-2396 or Hep G2 cell lysate: sc-2227.

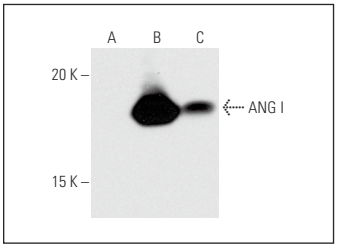
RESEARCH USE

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

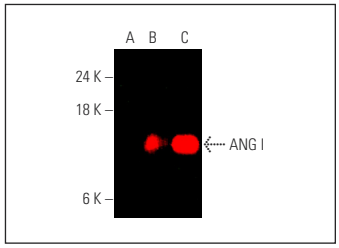
STORAGE

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

DATA



ANG I (C-1): sc-74528. Western blot analysis of ANG I expression in non-transfected CHO: sc-117750 (**A**), human ANG I transfected CHO: sc-110020 (**B**) and Hep G2 (**C**) whole cell lysates.



ANG I (C-1): sc-74528. Near-infrared western blot analysis of ANG I expression in non-transfected CHO: sc-117750 (**A**), human ANG I transfected CHO: sc-110020 (**B**) and Hep G2 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Schaafhausen, M.K., et al. 2013. Tumor angiogenesis is caused by single melanoma cells in a manner dependent on reactive oxygen species and NFκB. J. Cell Sci. 126: 3862-3872.
2. Zhang, G., et al. 2014. Validation and clinicopathologic associations of a urine-based bladder cancer biomarker signature. Diagn. Pathol. 9: 200.
3. Bárcena, C., et al. 2015. Angiogenin secretion from hepatoma cells activates hepatic stellate cells to amplify a self-sustained cycle promoting liver cancer. Sci. Rep. 5: 7916.
4. Xu, L., et al. 2016. ANG promotes proliferation and invasion of the cell of lung squamous carcinoma by directly up-regulating HMGA2. J. Cancer 7: 862-871.
5. Wei, Z., et al. 2017. Coding and noncoding landscape of extracellular RNA released by human glioma stem cells. Nat. Commun. 8: 1145.
6. Fu, J.L., et al. 2018. Suppression of COUP-TFII upregulates angiogenin and promotes angiogenesis in endometriosis. Hum. Reprod. 33: 1517-1527.
7. Jeong, S.J., et al. 2019. A threonyl-tRNA synthetase-mediated translation initiation machinery. Nat. Commun. 10: 1357.
8. Mazzeo, A., et al. 2019. Functional analysis of miR-21-3p, miR-30b-5p and miR-150-5p shuttled by extracellular vesicles from diabetic subjects reveals their association with diabetic retinopathy. Exp. Eye Res. 184: 56-63.
9. Su, Z., et al. 2019. Angiogenin generates specific stress-induced tRNA halves and is not involved in tRF-3-mediated gene silencing. J. Biol. Chem. 294: 16930-16941.

PROTOCOLS

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