SANTA CRUZ BIOTECHNOLOGY, INC.

AT_2 (N-19): sc-7421

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Angiotensin II (Ang II) is an important physiological effector of blood pressure and volume regulation through vasoconstriction, aldosterone release, sodium uptake and thirst stimulation. Although Ang II interacts with two types of cell surface receptors, AT_1 and AT_2, most of the major cardiovascular effects seem to be mediated through AT_1. Molecular cloning of the AT_1 protein has shown it to be a member of the G protein-associated seven transmembrane protein receptor family. Ang II treatment of cells results in activation of several signal transduction pathways as evidenced by tyrosine phosphorylation of several proteins and induction of others. PLCγ is phosphorylated after 30 seconds of treatment with Angiotensin II, indicating this as an early signal transduction event. Ang II treatment also stimulates phosphorylation of Shc, FAK and MAP kinases, and induces MKP-1, indicating stimulation of growth factor pathways. Ang II stimulation through AT_1 has been shown to activate the JAK/Stat pathway involving a direct interaction between JAK2 and AT_1 as demonstrated by coimmunoprecipitation. The AT_1 receptor has no cytoplasmic kinase domain, but is able to function as a substrate for Src kinases and has several putative phosphorylation sites.

CHROMOSOMAL LOCATION

Genetic locus: AGTR2 (human) mapping to Xq23.

SOURCE

AT_2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of AT_2 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.

Blocking peptide available for competition studies, sc-7421 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AT_2 (N-19) is recommended for detection of AT_2 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), immunohistochemistry (including paraffin-embedded sections) (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 AT_2 siRNA (h): sc-29752, AT_2 shRNA Plasmid (h): sc-29752-SH and AT_2 shRNA (h) Lentiviral Particles: sc-29752-V.

Molecular Weight (predicted) of AT_2: 41 kDa.

Molecular Weight (observed) of AT_2: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

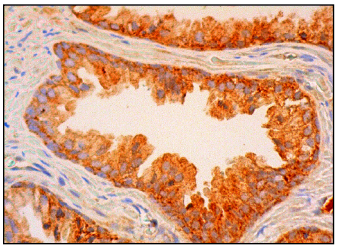
RESEARCH USE

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



AT_2 (N-19): sc-7421. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Dominguez-Jimenez, C., et al. 2001. Involvement of α3 Integrin/tetraspanin complexes in the angiogenic response induced by Angiotensin II. FASEB J. 15: 1457-1459.
2. Nouet, S., et al. 2004. *Trans*-inactivation of receptor tyrosine kinases by novel angiotensin II AT_2 receptor-interacting protein, ATIP. J. Biol. Chem. 279: 28989-28997.
3. Woost, P.G., et al. 2007. Development of an AT2-deficient proximal tubule cell line for transport studies. In vitro Cell. Dev. Biol. Anim. 43: 352-360.
4. Sendra, J., et al. 2008. Angiotensin II upregulates LDL receptor-related protein (LRP1) expression in the vascular wall: a new pro-atherogenic mechanism of hypertension. Cardiovasc. Res. 78: 581-589.
5. Johansson, M.E., et al. 2008. Angiotensin type 2 receptor is expressed in human atherosclerotic lesions. J. Renin Angiotensin Aldosterone Syst. 9: 17-21.
6. Striker, G.E., et al. 2008. Regulation of Angiotensin II receptors and extracellular matrix turnover in human retinal pigment epithelium: role of Angiotensin II. Am. J. Physiol., Cell Physiol. 295: C1633-C1646.
7. Spak, E., et al. 2008. Angiotensin II-induced contractions in human jejunal wall musculature *in vitro*. Acta Physiol. 193: 181-190.
8. Song, R., et al. 2010. Angiotensin II AT_2 receptor regulates ureteric bud morphogenesis. Am. J. Physiol. Renal Physiol. 298: F807-F817.
9. Tower, C.L., et al. 2010. Differential expression of angiotensin II type 1 and type 2 receptors at the maternal-fetal interface: potential roles in early placental development. Reproduction 140: 931-942.

PROTOCOLS

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