SANTA CRUZ BIOTECHNOLOGY, INC.

AT_1 (N-10)-G: sc-1173-G

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 co-immunprecipitation. 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: AGTR1 (human) mapping to 3q24; Agtr1b (mouse) mapping to 3 A2.

SOURCE

AT_1 (N-10)-G is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of AT1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AT1 (N-10) is available conjugated to agarose (sc-1173 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-1173 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AT_1 (N-10)-G is recommended for detection of AT_1 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), 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). AT_1 (N-10) is also recommended for detection of AT_1 in additional species, including equine, canine, bovine and porcine.

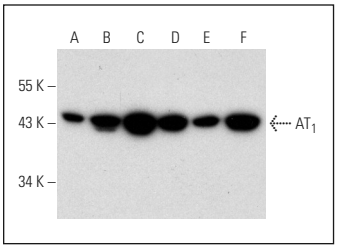
Suitable for use as control antibody for AT_1 siRNA (h): sc-29750, AT_1 siRNA (m): sc-29751, AT_1 shRNA Plasmid (h): sc-29750-SH, AT_1 shRNA Plasmid (m): sc-29751-SH, AT_1 shRNA (h) Lentiviral Particles: sc-29750-V and AT_1 shRNA (m) Lentiviral Particles: sc-29751-V.

Molecular Weight of AT_1: 43 kDa.

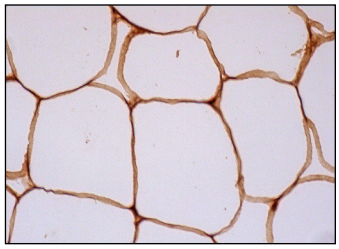
STORAGE

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

DATA



AT_1 (N-10): sc-1173. Western blot analysis of AT_1 expression in c4 (**A**), NIH/3T3 (**B**), C3H/10T1/2 (**C**), A549 (**D**), Mv 1 Lu (**E**) and A-10 (**F**) whole cell lysates.



AT_1 (N-10)-G: sc-1173-G. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane staining of adipocytes.

SELECT PRODUCT CITATIONS

1. Ali, M.S., et al. 1997. Dependence on the motif YIPP for the physical association of JAK2 kinase with the intracellular carboxyl tail of the angiotensin II AT_1 receptor. J. Biol. Chem. 272: 23382-23388.
2. Niehof, M., et al. 2011. HNF4α dysfunction as a molecular rational for cyclosporine induced hypertension. PLoS ONE 6: e16319.
3. Li, L., et al. 2011. SIRT1 acts as a modulator of neointima formation following vascular injury in mice. Circ. Res. 108: 1180-1189.
4. Li, XC., et al. 2012. Novel signaling mechanisms of intracellular angiotensin II-induced NHE3 expression and activation in mouse proximal tubule cells. Am. J. Physiol. Renal Physiol. 303: F1617-F1628.
5. Nogueira-Silva, C., et al. 2012. Local fetal lung renin-angiotensin system as a target to treat congenital diaphragmatic hernia. Mol. Med. 18: 231-243.
6. Samuel, P., et al. 2012. High Na intake increases renal angiotensin II levels and reduces expression of the ACE2-AT(2)R-MasR axis in obese Zucker rats. Am. J. Physiol. Renal Physiol. 303: F412-F419.
7. Anand, U., et al. 2013. Angiotensin II type 2 receptor (AT2 R) localization and antagonist-mediated inhibition of capsaicin responses and neurite outgrowth in human and rat sensory neurons. Eur. J. Pain. 17: 1012-1026.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **AT_1 (1E10-1A9): sc-81671**, our highly recommended monoclonal alternative to AT_1 (N-10).