SANTA CRUZ BIOTECHNOLOGY, INC.

AT_2 (C-18): sc-7420

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; Agtr2 (mouse) mapping to X A2.

SOURCE

AT_2(C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic 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-7420 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AT_2 (C-18) is recommended for detection of AT_2 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_2 (C-18) is also recommended for detection of AT_2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for AT_2 siRNA (h): sc-29752, AT_2 siRNA (m): sc-29753, AT_2 shRNA Plasmid (h): sc-29752-SH, AT_2 shRNA Plasmid (m): sc-29753-SH, AT_2 shRNA (h) Lentiviral Particles: sc-29752-V and AT_2 shRNA (m) Lentiviral Particles: sc-29753-V.

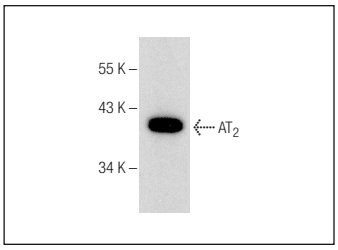
Molecular Weight (predicted) of AT_2: 41 kDa.

Molecular Weight (observed) of AT_2: 50 kDa.

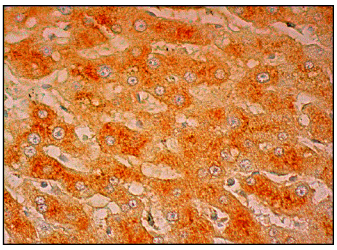
STORAGE

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

DATA



AT_2 (C-18): sc-7420. Western blot analysis of AT_2 expression in mouse liver tissue extract.



AT_2 (C-18): sc-7420. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Leri, A., et al. 1999. Up-regulation of AT_1 and AT_2 receptors in postinfarcted hypertrophied myocytes and stretch-mediated apoptotic cell death. Am. J. Pathol. 155: 1663-1672.
2. Grammatopoulos, T.N., et al. 2007. Angiotensin type 1 receptor antagonist losartan, reduces MPTP-induced degeneration of dopaminergic neurons in substantia nigra. Mol. Neurodegener. 2: 1.
3. Mii, A., et al. 2009. Angiotensin II receptor blockade inhibits acute glo-merular injuries with the alteration of receptor expression. Lab. Invest. 89: 164-177.
4. Clere, N., et al. 2010. Deficiency or blockade of angiotensin II type 2 receptor delays tumorigenesis by inhibiting malignant cell proliferation and angiogenesis. Int. J. Cancer 127: 2279-2291.
5. Arce, ME., et al. 2011. Purkinje cells express Angiotensin II AT_2 receptors at different developmental stages. Neuropeptides 45: 69-76.
6. da Silva, O.G., et al. 2011. Involvement of the AT_1 receptor in the venoconstriction induced by angiotensin II in both the inferior vena cava and femoral vein. Peptides 32: 112-117.
7. Day, R.M., et al. 2011. Angiotensin II activates AMPK for execution of apoptosis through energy-dependent and -independent mechanisms. Am. J. Physiol. Lung Cell Mol. Physiol. 301: L772-L781.
8. Kim, Y.C. and Day, R.M. 2012. Angiotensin II regulates activation of Bim via Rb/E2F1 during apoptosis: involvement of interaction between AMPKβ1/2 and Cdk4. Am. J. Physiol. Lung Cell. Mol. Physiol. 303: L228-L238.
9. 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.