

AT₂ (K-15): sc-48452

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, AT₁ and AT₂, most of the major cardiovascular effects seem to be mediated through AT₁. Molecular cloning of the AT₁ 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. PLC γ 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 AT₁ has been shown to activate the JAK/Stat pathway involving a direct interaction between JAK2 and AT₁ as demonstrated by coimmunoprecipitation. The AT₁ 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

AT₂ (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of AT₂ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-48452 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AT₂ (K-15) is recommended for detection of AT₂ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

AT₂ (K-15) is also recommended for detection of AT₂ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AT₂ siRNA (h): sc-29752, AT₂ siRNA (m): sc-29753, AT₂ shRNA Plasmid (h): sc-29752-SH, AT₂ shRNA Plasmid (m): sc-29753-SH, AT₂ shRNA (h) Lentiviral Particles: sc-29752-V and AT₂ shRNA (m) Lentiviral Particles: sc-29753-V.

Molecular Weight (predicted) of AT₂: 41 kDa.

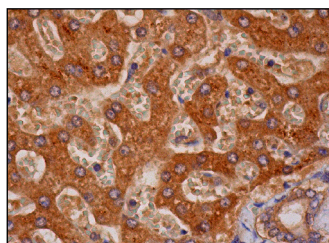
Molecular Weight (observed) of AT₂: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz[™]: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



AT₂ (K-15): sc-48452. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes and bile duct cells.

SELECT PRODUCT CITATIONS

1. Yu, L., et al. 2010. Developmental changes in AT₁ and AT₂ receptor-protein expression in rats. *J. Renin Angiotensin Aldosterone Syst.* 11: 214-221.
2. 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.
3. Hafko, R., et al. 2013. Commercially available angiotensin II AT₂ receptor antibodies are nonspecific. *PLoS ONE* 8: e69234.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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