

AT₁ (h3): 293T Lysate: sc-158285

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.

REFERENCES

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3. Duff, J.L., et al. 1993. Angiotensin II induces 3CH134, a protein-tyrosine phosphatase, in vascular smooth muscle cells. *J. Biol. Chem.* 268: 26037-26040.
4. Timmermans, P.B., et al. 1993. Angiotensin II receptors and Angiotensin II receptor antagonists. *Pharmacol. Rev.* 45: 205-251.
5. Marrero, M.B., et al. 1994. Angiotensin II stimulates tyrosine phosphorylation of phospholipase C- γ 1 in vascular smooth muscle cells. *J. Biol. Chem.* 269: 10935-10939.
6. Schorb, W., et al. 1994. Angiotensin II-induced protein tyrosine phosphorylation in neonatal rat cardiac fibroblasts. *J. Biol. Chem.* 269: 19626-19632.
7. Marrero, M.B., et al. 1995. Direct stimulation of Jak/STAT pathway by the Angiotensin II AT₁ receptor. *Nature* 375: 247-250.

CHROMOSOMAL LOCATION

Genetic locus: AGTR1 (human) mapping to 3q25.

PRODUCT

AT₁ (h3): 293T Lysate represents a lysate of human AT₁ transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

AT₁ (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive AT₁ antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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