

# AT<sub>2</sub> (H-143): sc-9040

## 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<sub>1</sub> and AT<sub>2</sub>, most of the major cardiovascular effects seem to be mediated through AT<sub>1</sub>. Molecular cloning of the AT<sub>1</sub> 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 $\gamma$  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<sub>1</sub> has been shown to activate the JAK Stat pathway involving a direct interaction between JAK2 and AT<sub>1</sub> as demonstrated by coimmunoprecipitation. It has been shown that AT<sub>2</sub> expression is regulated by IRF-1 and IRF-2.

## CHROMOSOMAL LOCATION

Genetic locus: AGTR2 (human) mapping to Xq23; Agtr2 (mouse) mapping to X A2.

## SOURCE

AT<sub>2</sub> (H-143) is a rabbit polyclonal antibody raised against amino acids 221-363 of AT<sub>2</sub> of human origin.

## PRODUCT

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

Available as agarose conjugate for immunoprecipitation, sc-9040 AC, 500  $\mu$ g/0.25 ml agarose in 1 ml.

## APPLICATIONS

AT<sub>2</sub> (H-143) is recommended for detection of AT<sub>2</sub> of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (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<sub>2</sub> (H-143) is also recommended for detection of AT<sub>2</sub> in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for AT<sub>2</sub> siRNA (h): sc-29752, AT<sub>2</sub> siRNA (m): sc-29753, AT<sub>2</sub> siRNA (r): sc-156014, AT<sub>2</sub> shRNA Plasmid (h): sc-29752-SH, AT<sub>2</sub> shRNA Plasmid (m): sc-29753-SH, AT<sub>2</sub> shRNA Plasmid (r): sc-156014-SH, AT<sub>2</sub> shRNA (h) Lentiviral Particles: sc-29752-V, AT<sub>2</sub> shRNA (m) Lentiviral Particles: sc-29753-V and AT<sub>2</sub> shRNA (r) Lentiviral Particles: sc-156014-V.

Molecular Weight (predicted) of AT<sub>2</sub>: 41 kDa.

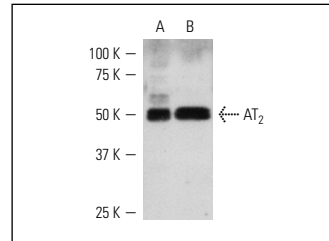
Molecular Weight (observed) of AT<sub>2</sub>: 50 kDa.

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

## STORAGE

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

## DATA



AT<sub>2</sub> (H-143): sc-9040. Western blot analysis of AT<sub>2</sub> expression in Hep G2 whole cell lysate (A) and mouse liver extract (B).

## SELECT PRODUCT CITATIONS

- Lorenzo, O., et al. 2002. Angiotensin III activates nuclear transcription factor- $\kappa$ B in cultured mesangial cells mainly via AT<sub>2</sub> receptors: studies with AT<sub>1</sub> receptor-knockout mice. *J. Am. Soc. Nephrol.* 13: 1162-1171.
- Chan, J.Y., et al. 2002. Augmented upregulation by c-Fos of angiotensin subtype 1 receptor in nucleus tractus solitarius of spontaneously hypertensive rats. *Hypertension* 40: 335-341.
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- Nouet, S., et al. 2004. *Trans*-inactivation of receptor tyrosine kinases by novel angiotensin II AT<sub>2</sub> receptor-interacting protein, ATIP. *J. Biol. Chem.* 279: 28989-28997.
- Li, J., et al. 2005. Angiotensin AT<sub>2</sub> receptor protects against cerebral ischemia-induced neuronal injury. *FASEB J.* 19: 617-619.
- Jin, D., et al. 2007. Roles of chymase in stenosis occurring after polytetrafluoroethylene graft implantations. *Life Sci.* 81: 1291-1300.
- Seidel, K., et al. 2010. The promyelocytic leukemia zinc finger (PLZF) protein exerts neuroprotective effects in neuronal cells and is dysregulated in experimental stroke. *Brain Pathol.* 21: 31-43.
- Villar-Cheda, B., et al. 2010. Nigral and striatal regulation of angiotensin receptor expression by dopamine and angiotensin in rodents: implications for progression of Parkinson's disease. *Eur. J. Neurosci.* 32: 1695-1706.
- Hallersund, P., et al. 2011. The expression of renin-angiotensin system components in the human gastric mucosa. *J. Renin Angiotensin Aldosterone Syst.* 12: 54-64.

## RESEARCH USE

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