

Angiotensinogen (h2): 293T Lysate: sc-170533

BACKGROUND

Angiotensin is formed from a precursor, angiotensinogen, which is produced by the liver and found in the α -globulin fraction of plasma. The lowering of blood pressure is a stimulus to secretion of Renin by the kidney into the blood. Renin cleaves from angiotensinogen a terminal decapeptide, Angiotensin I (Ang I). This is further altered by the enzymatic removal of a dipeptide to form Angiotensin II (Ang II). Screening a panel of human-mouse somatic cell hybrids confirmed the assignment of the AGT locus to human chromosome 1q42.2. Angiotensin II, an octapeptide hormone, is an important physiological effector of blood pressure and volume regulation through vasoconstriction, aldosterone release, sodium uptake and thirst stimulation. It has been shown that mechanical stress causes release of Angiotensin II from cardiac myocytes and that Angiotensin II acts as an initial mediator of the hypertrophic response. Angiotensin II treatment also stimulates phosphorylation of Shc, FAK and MAP kinases and induces MKP-1, indicating stimulation of growth factor pathways. Angiotensin II stimulation through AT1 has been shown to activate the JAK/Stat pathway involving a direct interaction between JAK2 and AT1 as demonstrated by co-immunoprecipitation.

REFERENCES

1. Tsuda, T., et al. 1991. Vasoconstrictor-induced protein-tyrosine phosphorylation in cultured vascular smooth muscle cells. *FEBS Lett.* 285: 44-48.
2. Abonia, J.P., et al. 1993. Linkage of AGT and Actsk-1 to distal mouse chromosome 8 loci: a new conserved linkage. *Mamm. Genome* 4: 25-32.
3. Sadoshima, J., et al. 1993. Autocrine release of Angiotensin II mediates stretch-induced hypertrophy of cardiac myocytes *in vitro*. *Cell* 75: 977-984.
4. 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.
5. Schorb, W., et al. 1994. Angiotensin II-induced protein tyrosine phosphorylation in neonatal rat cardiac fibroblasts. *J. Biol. Chem.* 269: 19626-19632.
6. 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: AGT (human) mapping to 1q42.2.

PRODUCT

Angiotensinogen (h2): 293T Lysate represents a lysate of human Angiotensinogen 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.

PROTOCOLS

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

APPLICATIONS

Angiotensinogen (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive Angiotensinogen antibodies. Recommended use: 10-20 μ l per lane.

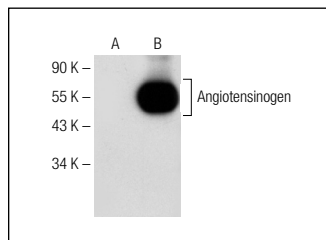
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Angiotensinogen (H-12): sc-374511 is recommended as a positive control antibody for Western Blot analysis of enhanced human Angiotensinogen expression in Angiotensinogen transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Angiotensinogen (H-12): sc-374511. Western blot analysis of Angiotensinogen expression in non-transfected: sc-117752 (A) and human Angiotensinogen transfected: sc-170533 (B) 293T whole cell lysates.

RESEARCH USE

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