



Angiotensin (h): 293 Lysate: sc-111052

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 1. Angiotensin, 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 from cardiac myocytes and that Angiotensin acts as an initial mediator of the hypertrophic response. Angiotensin treatment also stimulates phosphorylation of Shc, FAK and MAP kinases and induces MKP-1, indicating stimulation of growth factor pathways. Angiotensin 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., Kawahara, Y., Shii, K., Koide, M., Ishida, Y. and Yokoyama, M. 1991. Vasoconstrictor-induced protein-tyrosine phosphorylation in cultured vascular smooth muscle cells. *FEBS Lett.* 285: 44-48.
2. Abonia, J.P., Abel, K.J., Eddy, R.L., Elliott, R.W., Chapman, V.M., Shows, T.B. and Gross, K.W. 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., Xu, Y., Slayter, H.S. and Izumo, S. 1993. Autocrine release of Angiotensin II mediates stretch-induced hypertrophy of cardiac myocytes *in vitro*. *Cell* 75: 977-984.
4. Duff, J.L., Marrero, M.B., Paxton, W.G., Charles, C.H., Lau, L.F., Bernstein, K.E. and Berk, B.C. 1993. Angiotensin II induces 3CH134, a protein-tyrosine phosphatase, in vascular smooth muscle cells. *J. Biol. Chem.* 268: 26037-26040.
5. Schorb, W., Peeler, T.C., Madigan, N.N., Conrad, K.M. and Baker, K.M. 1994. Angiotensin II-induced protein tyrosine phosphorylation in neonatal rat cardiac fibroblasts. *J. Biol. Chem.* 269: 19626-19632.
6. Marrero, M.B., Schieffer, B., Paxton, W.G., Heerdt, L., Berk, B.C., Delafontaine, P. and Bernstein, K.E. 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

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

RESEARCH USE

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

APPLICATIONS

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

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

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.