

# Angiotensin I (BGN/KA/22H): sc-80682

## BACKGROUND

Angiotensin is formed from a precursor, angiotensinogen, which is produced by the liver and found in the  $\alpha$ -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 Angiotensin-converting enzyme (ACE) that enzymatically removes a dipeptide to form Angiotensin II (Ang II). 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.

## REFERENCES

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2. Sadoshima, J., et al. 1993. Autocrine release of Angiotensin II mediates stretch-induced hypertrophy of cardiac myocytes *in vitro*. *Cell* 75: 977-984.
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. Schorb, W., et al. 1994. Angiotensin II-induced protein tyrosine phosphorylation in neonatal rat cardiac fibroblasts. *J. Biol. Chem.* 269: 19626-19632.
5. Marrero, M.B., et al. 1995. Direct stimulation of JAK/Stat pathway by the Angiotensin II AT1 receptor. *Nature* 375: 247-250.
6. Hong, H.J., et al. 2004. Angiotensin II induces endothelin-1 gene expression via extracellular signal-regulated kinase pathway in rat aortic smooth muscle cells. *Cardiovasc. Res.* 61: 159-168.
7. Gao, B.B., et al. 2006. Angiotensin II stimulates phosphorylation of an ectodomain-truncated platelet-derived growth factor receptor  $\beta$  and its binding to class IA PI 3-K in vascular smooth muscle cells. *Biochem. J.* 397: 337-344.
9. Yayama, K., et al. 2008. Angiotensin II-induced vasodilation via type 2 receptor: Role of Bradykinin and nitric oxide. *Int. Immunopharmacol.* 8: 312-318.
8. Jalili, P.R., et al. 2008. Determination of the structure of lipid vesicle-bound Angiotensin II and Angiotensin I. *Anal. Biochem.* 374: 346-357.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: AGT (human) mapping to 1q42.2.

## SOURCE

Angiotensin I (BGN/KA/22H) is a mouse monoclonal antibody raised against Angiotensin I of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Angiotensin I (BGN/KA/22H) is recommended for detection of Angiotensin I of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with angiotensinogen, angiotensin II or angiotensin III.

Suitable for use as control antibody for Angiotensin siRNA (h): sc-37196, Angiotensin shRNA Plasmid (h): sc-37196-SH and Angiotensin shRNA (h) Lentiviral Particles: sc-37196-V.

Molecular Weight of Angiotensin I: 60 kDa.

## SELECT PRODUCT CITATIONS

1. Dornhoffer, J.R., et al. 2017. The expression of renin-angiotensin-aldosterone axis components in infantile hemangioma tissue and the impact of propranolol treatment. *Pediatr. Res.* 82: 155-163.

## RESEARCH USE

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