SANTA CRUZ BIOTECHNOLOGY, INC.

Renin (E-17): sc-27318

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Renin is a highly specific endopeptidase that mediates the cleavage of the circulating substrate angiotensinogen to yield Angiotensin I. Angiotensin-converting enzyme I (ACE) then completes the conversion from Angiotensin I to Angiotensin II which is significant in the regulation of electrolyte balance and blood pressure. Sympathetic stimulation (β_1-Adrenergic receptors), renal artery hypotension and decreases in sodium delivery to the distal tubules of the kidney signal the release of Renin. The Renin-angiotensin system (RAS) is essential for regulating blood volume, arterial pressure and normal cardiac and vascular function. Renin is synthesized and secreted by modified smooth muscle cells in the juxtaglomerular apparatus (JGA) of the kidney. Expression of Renin in other tissues, including brain, has been verified although the homeostatic role it may play is yet to be firmly established.

CHROMOSOMAL LOCATION

Genetic locus: REN (human) mapping to 1q32.1; Ren2 (mouse) mapping to 1 E4.

SOURCE

Renin (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Renin of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27318 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Renin (E-17) is recommended for detection of precursor and mature heavy chain Renin of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Renin (E-17) is also recommended for detection of precursor and mature heavy chain Renin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Renin siRNA (h): sc-41644, Renin siRNA (m): sc-41645, Renin shRNA Plasmid (h): sc-41644-SH, Renin shRNA Plasmid (m): sc-41645-SH, Renin shRNA (h) Lentiviral Particles: sc-41644-V and Renin shRNA (m) Lentiviral Particles: sc-41645-V.

Molecular Weight of Renin precursor: 46 kDa.

Molecular Weight of intermediate Renin: 41 kDa.

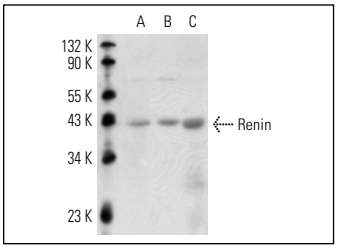
Molecular Weight of mature Renin: 38 kDa.

Positive Controls: A-10 cell lysate: sc-3806, KNRK whole cell lysate: sc-2214 or mouse heart extract: sc-2254.

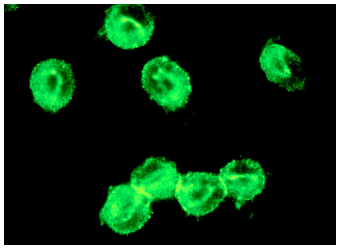
STORAGE

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

DATA



Renin (E-17): sc-27318. Western blot analysis of Renin expression in KNRK (**A**) and A-10 (**B**) whole cell lysates and mouse heart tissue extract (**C**).



Renin (E-17): sc-27318. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Velez, J.C., et al. 2007. Characterization of renin-angiotensin system enzyme activities in cultured mouse podocytes. Am. J. Physiol. Renal Physiol. 293: F398-F407.
2. El-Achkar, T.M., et al. 2007. Sepsis induces an increase in thick ascending limb Cox-2 that is TLR4 dependent. Am. J. Physiol. Renal Physiol. 293: F1187-F1196.
3. Sui, Y., et al. 2007. Pancreatic islet β-cell deficit and glucose intolerance in rats with uninephrectomy. Cell. Mol. Life Sci. 64: 3119-3128.
4. Deb, D.K., et al. 2010. Combined vitamin D analog and AT1 receptor antagonist synergistically block the development of kidney disease in a model of type 2 diabetes. Kidney Int. 77: 1000-1009.
5. Chao, J., et al. 2011. Renin released from mast cells activated by circulating MCP-1 initiates the microvascular phase of the systemic inflammation of alveolar hypoxia. Am. J. Physiol. Heart Circ. Physiol. 301: H2264-H2270.
6. Stodola, T.J., et al. 2011. Characterization of the genomic structure and function of regions influencing renin and angiogenesis in the SS rat. Physiol. Genomics 43: 808-817.

RESEARCH USE

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

PROTOCOLS

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