

Renin (H-105): sc-22752

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; Ren1 (mouse) mapping to 1 E4.

SOURCE

Renin (H-105) is a rabbit polyclonal antibody raised against amino acids 116-220 mapping to an internal region of Renin of human origin.

PRODUCT

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

APPLICATIONS

Renin (H-105) is recommended for detection of precursor and mature Renin of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

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: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

RESEARCH USE

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

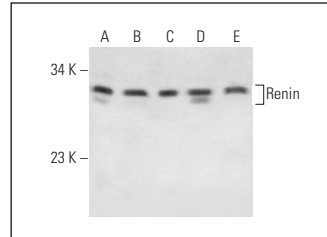
PROTOCOLS

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

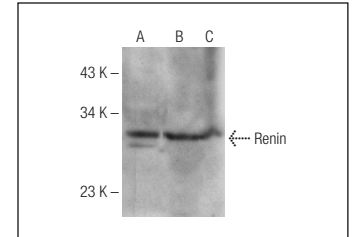
STORAGE

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

DATA



Renin (H-105): sc-22752. Western blot analysis of Renin expression in K-562 (A), HeLa (B), ES-2 (C), Hep G2 (D) and HCT-116 (E) whole cell lysates.



Renin (H-105): sc-22752. Western blot analysis of Renin expression in KNRK whole cell lysate (A) and mouse liver (B) and rat kidney (C) tissue extracts.

SELECT PRODUCT CITATIONS

- Gilbert, J.S., et al. 2007. Nutrient restriction impairs nephrogenesis in a gender-specific manner in the ovine fetus. *Pediatr. Res.* 61: 42-47.
- Gonzalez, A.A., et al. 2011. Angiotensin II stimulates renin in inner medullary collecting duct cells via protein kinase C and independent of epithelial sodium channel and mineralocorticoid receptor activity. *Hypertension* 57: 594-599.
- Liu, L., et al. 2011. Increased renin excretion associated with augmented urinary angiotensin II levels in chronic angiotensin II-infused hypertensive rats. *Am. J. Physiol. Renal Physiol.* 301: F1195-F1201.
- Kumar, D., et al. 2011. Adverse host factors exacerbate occult HIV-associated nephropathy. *Am. J. Pathol.* 179: 1681-1692.
- Chandel, N., et al. 2012. Vitamin D receptor activation and downregulation of renin-angiotensin system attenuate morphine-induced T cell apoptosis. *Am. J. Physiol., Cell Physiol.* 303: C607-C615.
- Kumar, D., et al. 2012. Inhibition of renin activity slows down the progression of HIV-associated nephropathy. *Am. J. Physiol. Renal Physiol.* 303: F711-F720.
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- Chandel, N., et al. 2013. VDR hypermethylation and HIV-induced T cell loss. *J. Leukoc. Biol.* 93: 623-631.
- Rehman, S., et al. 2013. Ethanol and vitamin D receptor in T cell apoptosis. *J. Neuroimmune Pharmacol.* 8: 251-261.



Try **Renin (B-12): sc-133145** or **Renin (A-1): sc-137252**, our highly recommended monoclonal alternatives to Renin (H-105). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Renin (B-12): sc-133145**.