

Renin (G-18): sc-27320

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: Ren1 (mouse) mapping to 1 E4.

SOURCE

Renin (G-18) 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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27320 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

Renin (G-18) is recommended for detection of precursor and mature heavy chain Renin of 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 (m): sc-41645, Renin shRNA Plasmid (m): sc-41645-SH and Renin shRNA (m) Lentiviral Particles: sc-41645-V.

Molecular Weight of Renin precursor: 46 kDa.

Molecular Weight of intermediate Renin: 41 kDa.

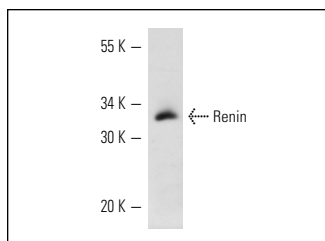
Molecular Weight of mature Renin: 38 kDa.

Positive Controls: A-10 cell lysate: sc-3806, KNRK whole cell lysate: sc-2214 or rat kidney extract: sc-2394.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Renin (G-18): sc-27320. Western blot analysis of Renin expression in rat kidney tissue extract.

SELECT PRODUCT CITATIONS

- Freundlich, M., et al. 2008. Suppression of Renin-angiotensin gene expression in the kidney by paricalcitol. *Kidney Int.* 74: 1394-1402.
- Tan, X., et al. 2009. Combination therapy with paricalcitol and trandolapril reduces renal fibrosis in obstructive nephropathy. *Kidney Int.* 76: 1248-1257.
- Nogueira-Silva, C., et al. 2012. Local fetal lung renin-angiotensin system as a target to treat congenital diaphragmatic hernia. *Mol. Med.* 18: 231-243.
- Samuel, P., et al. 2012. High Na intake increases renal angiotensin II levels and reduces expression of the ACE2-AT₂R-MasR axis in obese Zucker rats. *Am. J. Physiol. Renal Physiol.* 303: F412-F419.

PROTOCOLS

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



Try **Renin (B-12): sc-133145** or **Renin (A-1): sc-137252**, our highly recommended monoclonal alternatives to Renin (G-18). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Renin (B-12): sc-133145**.