

Renin (G-7): sc-365484



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 (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 233-263 within an internal region of Renin of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365484 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Renin (G-7) is recommended for detection of precursor and mature heavy chain Renin of mouse, rat and human 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.

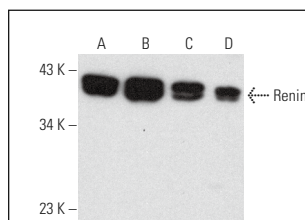
Molecular Weight of mature Renin: 38 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or KNRK whole cell lysate: sc-2214.

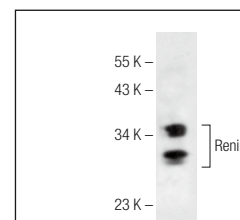
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Renin (G-7): sc-365484. Western blot analysis of Renin expression in HeLa (A), K-562 (B) and ES-2 (C) whole cell lysates and human kidney tissue extract (D).



Renin (G-7): sc-365484. Western blot analysis of Renin expression in KNRK whole cell lysate.

SELECT PRODUCT CITATIONS

- Chandel, N., et al. 2014. Renin modulates HIV replication in T cells. *J. Leukoc. Biol.* 96: 601-609.
- Rosa, R.M., et al. 2016. Alternative pathways for Angiotensin II production as an important determinant of kidney damage in endotoxemia. *Am. J. Physiol. Renal Physiol.* 311: F496-F504.
- Klee, K.M.C., et al. 2023. A CRISPR screen in intestinal epithelial cells identifies novel factors for polarity and apical transport. *Elife* 12: e80135.

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 for detailed protocols and support products.



See **Renin (B-12): sc-133145** for Renin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.