

Renin Receptor (K-19): sc-55025

BACKGROUND

The Renin Receptor, also known as ATP6AP2 (ATPase H⁺-transporting lysosomal accessory protein 2), ATP6IP2 (ATPase H⁺-transporting lysosomal-interacting protein 2), CAPER or M8-9, is an ATPase-associated protein that functions as a Renin and prorenin cellular receptor. Expressed in the brain, heart, liver, kidney, placenta and pancreas, the Renin Receptor functions to activate ERK 1 and ERK 2, thereby mediating Renin-dependent cellular responses. The Renin Receptor has a subunit that associates with the transmembrane domain of V-type ATPases and interacts with Renin. These interactions increase the catalytic activity of Renin in the Renin-Angiotensin system (RAS), thus upregulating the conversion of angiotensinogen to Angiotensin. Defects in the gene encoding the Renin Receptor are implicated in mental retardation X-linked with epilepsy (MRXE), a syndromic mental retardation characterized by epilepsy as well as delays in motor milestones and speech acquisition in infancy.

REFERENCES

1. Nguyen, G., et al. 2002. Pivotal role of the Renin/prorenin receptor in Angiotensin II production and cellular responses to renin. *J. Clin. Invest.* 109: 1417-1427.
2. Nguyen, G., et al. 2004. Renin/prorenin-receptor biochemistry and functional significance. *Curr. Hypertens. Rep.* 6: 129-132.
3. Ramser, J., et al. 2005. A unique exonic splice enhancer mutation in a family with X-linked mental retardation and epilepsy points to a novel role of the Renin Receptor. *Hum. Mol. Genet.* 14: 1019-1027.
4. Catanzaro, D.F. 2005. Physiological relevance of Renin/prorenin binding and uptake. *Hypertens. Res.* 28: 97-105.
5. Burcklé, C.A., et al. 2006. Elevated blood pressure and heart rate in human Renin Receptor transgenic rats. *Hypertension* 47: 552-556.

CHROMOSOMAL LOCATION

Genetic locus: ATP6AP2 (human) mapping to Xp11.4; Atp6ap2 (mouse) mapping to X A1.1.

SOURCE

Renin Receptor (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Renin Receptor of human 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-55025 P, (100 µg 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.

APPLICATIONS

Renin Receptor (K-19) is recommended for detection of Renin Receptor of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 Receptor (K-19) is also recommended for detection of Renin Receptor in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Renin Receptor siRNA (h): sc-62934, Renin Receptor siRNA (m): sc-62935, Renin Receptor shRNA Plasmid (h): sc-62934-SH, Renin Receptor shRNA Plasmid (m): sc-62935-SH, Renin Receptor shRNA (h) Lentiviral Particles: sc-62934-V and Renin Receptor shRNA (m) Lentiviral Particles: sc-62935-V.

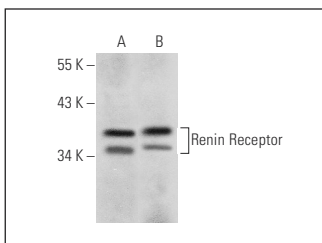
Molecular Weight of Renin Receptor: 39 kDa.

Positive Controls: mouse brain extract: sc-2253 or mouse cerebellum extract: sc-2403.

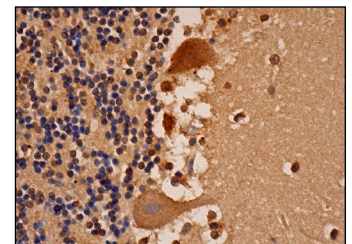
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Renin Receptor (K-19): sc-55025. Western blot analysis of Renin Receptor expression in mouse cerebellum (A) and mouse brain (B) tissue extracts.



Renin Receptor (K-19): sc-55025. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of cells in molecular layer, cells in granular layer and Purkinje cells.

RESEARCH USE

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