SANTA CRUZ BIOTECHNOLOGY, INC.

PCLN-1 (D-23): sc-133893

BACKGROUND

Tight junctions mediate the regulation of the paracellular pathway between epithelial and endothelial cells. They form close connections to eliminate the extracellular space and regulate the flow of solutes between cells. The human gene PCLN-1 (paracellin-1) is related to the claudin family of integral membrane proteins, which localize to tight junctions. PCLN-1 contains four transmembrane domains and intracellular amino and carboxy termini, characteristic of the other claudin family members, and is detected only at the tight junctions of kidney tissue. PCLN-1 forms an intercellular pore and controls the resorption of magnesium and calcium in the thick ascending limb of Henle (TAL). Mutations in PCLN-1 cause renal magnesium wasting, which may contribute to a rare autosomal recessive disease, renal hypomagnesemia with hypercalciuria and nephrocalcinosis.

REFERENCES

1. de Rouffignac, C., et al. 1994. Renal magnesium handling and its hormonal control. Physiol. Rev. 72: 305-322.

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4. Madara, J.L. 1998. Regulation of the movement of solutes across tight junctions. Annu. Rev. Physiol. 60: 143-159.

5. Wong, V., et al. 1999. Paracellular channels! Science 285: 62.

6. Simon, D.B., et al. 1999. Paracellin-1, a renal tight junction protein required for paracellular Mg^{2+} resorption. Science 285: 103-106.

7. Furuse, M., et al. 1999. Manner of interaction of heterogeneous claudin species within and between tight junction strands. J. Cell Biol. 147: 891-903.

8. Kubota, K., et al. 1999. Ca^{2+}-independent cell-adhesion activity of claudins, a family of integral membrane proteins localized at tight junctions. Curr. Biol. 9: 1035-1038.

9. Morita, K., et al. 1999. Claudin multigene family encoding four-transmembrane domain protein components of tight junction strands. Proc. Natl. Acad. Sci. USA 96: 511-516.

CHROMOSOMAL LOCATION

Genetic locus: CLDN16 (human) mapping to 3q28.

SOURCE

PCLN-1 (D-23) is an affinity purified rabbit polyclonal antibody raised against synthetic PCLN-1 peptide of human origin.

STORAGE

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

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

PCLN-1 (D-23) is recommended for detection of PCLN-1 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PCLN-1 siRNA (h): sc-42588, PCLN-1 shRNA Plasmid (h): sc-42588-SH and PCLN-1 shRNA (h) Lentiviral Particles: sc-42588-V.

Molecular Weight of PCLN-1: 36 kDa.

Positive Controls: human fetal lung tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA
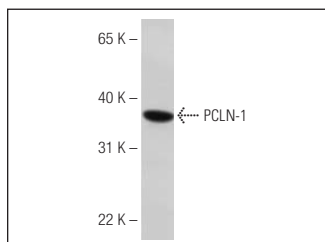
PCLN-1 (D-23): sc-133893. Western blot analysis of PCLN-1 expression in human fetal lung tissue extract.

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.