SANTA CRUZ BIOTECHNOLOGY, INC.

PMR1 (C-18): sc-12650

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The *Saccharomyces cerevisiae* protein, PMR1, encodes P-type calcium transport ATPase, which localizes to the Golgi and regulates the intracellular transport of calcium and man-ganese. The human homologue, ATP2C1 (also designated SPLA in rat), also regulates the transport of calcium in the Golgi complex and is related to other P-type ATPases family members, such as the sarco (endo)plasmic calcium ATPase (SERCA) and the plasma membrane calcium ATPase (PCMA). PMR1 is a transmembrane protein that exists as 2 splice variants, which vary by 20 amino acids. PMR1 is mutated in Hailey-Hailey disease (HHD), which is an autosomal dominant disorder that is characterized by blisters and erosions of the skin. These findings provide further evidence that PMR1 plays a key role in maintaining the integrity of the epidermis by controlling intracellular calcium signaling.

REFERENCES

1. Gunteski-Hamblin, A.M., Clarke, D.M. and Shull, G.E. 1992. Molecular cloning and tissue distribution of alternatively spliced mRNAs encoding possible mammalian homologues of the yeast secretory pathway calcium pump. Biochemistry 31: 7600-7608.
2. Sorin, A., Rosas, G. and Rao, R. 1997. PMR1, a Ca^{2+}-ATPase in yeast Golgi, has properties distinct from sarco/endoplasmic reticulum and plasma membrane calcium pumps. J. Biol. Chem. 272: 9895-9901.
3. Wei, Y., Marchi, V., Wang, R. and Rao, R. 1999. An N-terminal EF hand-like motif modulates ion transport by PMR1, the yeast Golgi Ca^{2+}/Mn^{2+}-ATPase. Biochemistry 38: 14534-14541.
4. Sudbrak, R., Brown, J., Dobson-Stone, C., Carter, S., Ramser, J., White, J., Healy, E., Dissanayake, M., Larregue, M., Perrussel, M., Lehrach, H., Munro, C.S., Strachan, T., Burge, S., Hovnanian, A. and Monaco, A.P. 2000. Hailey-Hailey disease is caused by mutations in ATP2C1 encoding a novel Ca^{2+} pump. Hum. Mol. Genet. 9: 1131-1140.
5. Hu, Z., Bonifas, J.M., Beech, J., Bench, G., Shigihara, T., Ogawa, H., Ikeda, S., Mauro, T. and Epstein, E.H. Jr. 2000. Mutations in ATP2C1, encoding a calcium pump, cause Hailey-Hailey disease. Nat. Genet. 24: 61-65.

CHROMOSOMAL LOCATION

Genetic locus: ATP2C1 (human) mapping to 3q22.1; Atp2c1 (mouse) mapping to 9 F1.

SOURCE

PMR1 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PMR1 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-12650 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PMR1 (C-18) is recommended for detection of PMR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PMR1 (C-18) is also recommended for detection of PMR1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PMR1 siRNA (h): sc-36285, PMR1 siRNA (m): sc-36286, PMR1 shRNA Plasmid (h): sc-36285-SH, PMR1 shRNA Plasmid (m): sc-36286-SH, PMR1 shRNA (h) Lentiviral Particles: sc-36285-V and PMR1 shRNA (m) Lentiviral Particles: sc-36286-V.

Molecular Weight of PMR1: 104 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

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) 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.

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.

PROTOCOLS

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