SANTA CRUZ BIOTECHNOLOGY, INC.

PMR1 (N-16): sc-12647

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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 manganese. 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

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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.

CHROMOSOMAL LOCATION

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

SOURCE

PMR1 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-12647 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

PMR1 (N-16) 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), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PMR1 (N-16) 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.

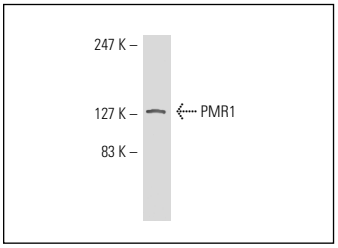
Molecular Weight of PMR1: 104 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or MDCK cell lysate: sc-2252.

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



PMR1 (N-16): sc-12647. Western blot analysis of RPMR1 expression in MDCK whole cell lysate.

RESEARCH USE

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