SANTA CRUZ BIOTECHNOLOGY, INC.

PMR1 (G-9): sc-365375

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 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 two 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 finding 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., et al. 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., et al. 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., et al. 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., et al. 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., et al. 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 (G-9) is a mouse monoclonal antibody raised against amino acids 720-919 of PMR1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PMR1 (G-9) is available conjugated to agarose (sc-365375 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365375 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365375 PE), fluorescein (sc-365375 FITC), Alexa Fluor® 488 (sc-365375 AF488), Alexa Fluor® 546 (sc-365375 AF546), Alexa Fluor® 594 (sc-365375 AF594) or Alexa Fluor® 647 (sc-365375 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365375 AF680) or Alexa Fluor® 790 (sc-365375 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PMR1 (G-9) is recommended for detection of PMR1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

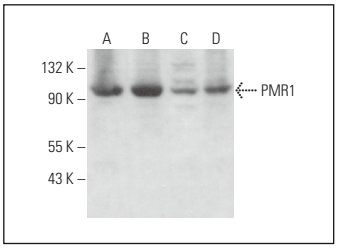
Molecular Weight of PMR1: 104 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, U-87 MG cell lysate: sc-2411 or HeLa whole cell lysate: sc-2200.

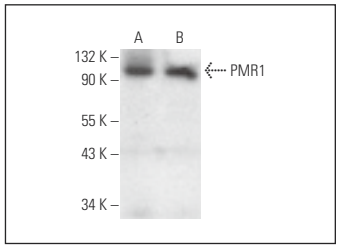
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



PMR1 (G-9): sc-365375. Western blot analysis of PMR1 expression in HeLa (**A**), U-87 MG (**B**), F9 (**C**) and C6 (**D**) whole cell lysates.



PMR1 (G-9): sc-365375. Western blot analysis of PMR1 expression in HeLa (**A**) and A-431 (**B**) whole cell lysates.

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 for detailed protocols and support products.