

PMCA (H-300): sc-28765

BACKGROUND

Plasma membrane-type Ca^{2+} -ATPases (PMCA) mediate the export of bivalent calcium ions from eukaryotic cells. As members of the P class of ion-motive ATPases, PMCA are a functionally diverse group of proteins that are derived from alternatively spliced transcripts originating from at least four distinct genes. The expression of different PMCA isoforms and splice variants is regulated in a developmental, tissue- and cell type-specific manner, and with respect to the physiological needs of specific cell and tissue types. Spatial and temporal rates of resting intracellular Ca^{2+} concentrations and Ca^{2+} signaling in eukaryotic cells are dependent on the array of PMCA isoforms that are expressed in concert with the rate of Ca^{2+} export.

REFERENCES

1. Greeb, J. and Shull, G.E. 1989. Molecular cloning of a third isoform of the calmodulin-sensitive plasma membrane Ca^{2+} -transporting ATPase that is expressed predominantly in brain and skeletal muscle. *J. Biol. Chem.* 264: 18569-18576.
2. Olson, S., Wang, M.G., Carafoli, E., Strehler, E.E. and McBride, O.W. 1991. Localization of two genes encoding plasma membrane Ca^{2+} -transporting ATPases to human chromosomes 1q25-32 and 12q21-23. *Genomics* 9: 629-641.
3. Fresu, L., Dehpour, A., Genazzani, A.A., Carafoli, E. and Guerini, D. 1999. Plasma membrane calcium ATPase isoforms in astrocytes. *Glia* 28: 150-155.
4. Strehler, E.E. and Zacharias, D.A. 2001. Role of alternative splicing in generating isoform diversity among plasma membrane calcium pumps. *Physiol. Rev.* 81: 21-50.

SOURCE

PMCA (H-300) is a rabbit polyclonal antibody raised against amino acids 481-780 mapping within a cytoplasmic domain of PMCA1 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.

APPLICATIONS

PMCA (H-300) is recommended for detection of PMCA1, PMCA2, PMCA3 and PMCA4 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).

PMCA (H-300) is also recommended for detection of PMCA1, PMCA2, PMCA3 and PMCA4 in additional species, including equine, canine, bovine, porcine and avian.

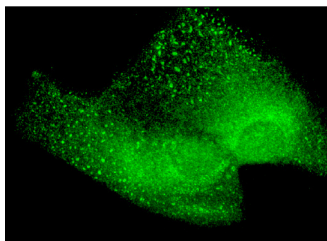
Molecular Weight of PMCA isoforms: 120-140 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Ramos cell lysate: sc-2216 or JAR cell lysate: sc-2276.

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PMCA (H-300): sc-28765. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Eltit, J.M., Yang, T., Li, H., Molinski, T.F., Pessah, I.N., Allen, P.D. and Lopez, J.R. 2010. RyR1-mediated Ca^{2+} leak and Ca^{2+} entry determine resting intracellular Ca^{2+} in skeletal myotubes. *J. Biol. Chem.* 285: 13781-13787.
2. Futatsugi, A., Utreras, E., Rudrabhatla, P., Jaffe, H., Pant, H.C. and Kulkarni, A.B. 2012. Cyclin-dependent kinase 5 regulates E2F transcription factor through phosphorylation of Rb protein in neurons. *Cell Cycle* 11: 1603-1610.

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.

MONOS
Satisfaction
Guaranteed

Try **PMCA (F-3): sc-271917** or **PMCA (H-8): sc-271194**, our highly recommended monoclonal alternatives to PMCA (H-300).