**BACKGROUND**

The plasma membrane Ca\(^{2+}\)-pumping ATPase (PMCA) mRNAs are encoded on four genes designated PMCA1-4. PMCA4b is the major PMCA expressed in developing mammary tissue. During lactation, PMCA1b expression increases while PMCA4b expression decreases, indicating that PMCAs play a critical role in maintaining cellular Ca\(^{2+}\) homeostasis. In addition, human PMCA4b may have an important role in regulating intracellular Ca\(^{2+}\) in the apoptotic cell. PMCA4b is cleaved at Asp 1,080 by caspase-3 to produce a single fragment that is fully active, responding much faster to an increase in Ca\(^{2+}\) than the autoinhibited form. Both PMCA1 and PMCA4 are expressed at similar levels in astrocytes and in neurons.

**CHROMOSOMAL LOCATION**

Genetic locus: ATP2B1 (human) mapping to 12q21.33, ATP2B4 (human) mapping to 1q32.1; Atp2b1 (mouse) mapping to 10 C3, Atp2b4 (mouse) mapping to 1 E4.

**SOURCE**

PMCA1/4 (5F10) is a mouse monoclonal antibody epitope mapping to amino acids 719-738 of PMCA4b of human origin.

**PRODUCT**

Each vial contains 200 μg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PMCA1/4 (5F10) is available conjugated to agarose (sc-20028 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20028 HRP), 200 μg/ml, for WB, HRP; and ELISA; to either phycoerythrin (sc-20028 PE), fluorescein (sc-20028 FITC), Alexa Fluor® 488 (sc-20028 AF488), Alexa Fluor® 546 (sc-20028 AF546), Alexa Fluor® 594 (sc-20028 AF594) or Alexa Fluor® 647 (sc-20028 AF647), 200 μg/ml, for WB (RGB), IF, IHC(PO) and FCM; and to either Alexa Fluor® 680 (sc-20028 AF680) or Alexa Fluor® 790 (sc-20028 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

PMCA1/4 (5F10) is recommended for detection of PMCA1b, PMCA4a and PMCA4b of mouse, rat, human and *Arabidopsis thaliana* 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PMCA1/4 (5F10) is also recommended for detection of PMCA1b, PMCA4a and PMCA4b in additional species, including bovine, feline and canine.

Molecular Weight of PMCA1/4: 129-140 kDa.

Positive Controls: JAR cell lysate: sc-2276, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

**STORAGE**

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

**DATA**

PMCA1/4 (5F10): sc-20028 Western blot analysis of PMCA1/4 expression in JAR (A) and Hep G2 (B) whole cell lysates.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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