**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 four distinct genes, PMCA1, 2, 3, and 4. 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. The human PMCA2 gene is located on chromosome 3, and antibodies directed against PMCA2 detect three proteins in brain and heart. Homozygous null mutations in the mouse gene result in deaf waddler mice, which are characterized by having a hesitant, wobbly gait, displaying head bobbing, and are deaf.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: ATP2B2 (human) mapping to 3p25.3, ATP2B3 (human) mapping to Xq28; Atp2b2 (mouse) mapping to 6E3, Atp2b3 (mouse) mapping to X A7.3.

**SOURCE**

PMCA2/3 (C-3) is a mouse monoclonal antibody raised against amino acids 83-194 mapping near the N-terminus of PMCA2 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.

**APPLICATIONS**

PMCA2/3 (C-3) is recommended for detection of PMCA2 and PMCA3 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).

PMCA2/3 (C-3) is also recommended for detection of PMCA2 and PMCA3 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of PMCA2/3: 127-137 kDa.

Positive Controls: mouse brain extract: sc-2253 or KNRK whole cell lysate: sc-2214.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGx BP-HRP: sc-516102 or m-IgGx BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgGx BP-FITC: sc-516140 or m-IgGx 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**

PMCA2/3 (C-3): sc-398013. Western blot analysis of PMCA2/3 expression in KNRK whole cell lysate.

PMCA2/3 (C-3): sc-398013. Western blot analysis of PMCA2/3 expression in mouse brain tissue extract.

**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.