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PMCA2 Rabbit pAb

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Catalog # AP58452

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q01814
Reactivity	Rat
Predicted	Dog, Human, Mouse, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	136876
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PMCA
Epitope Specificity	361-460/1243
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell membrane; Multi-pass membrane protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Plasma membrane-type Ca2+-ATPases (PMCAs) mediate the export of bivalent calcium ions from eukaryotic cells. As members of the P class of ion-motive ATPases, PMCAs 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 Ca2+ concentrations and Ca2+ signaling in eukaryotic cells are dependent on the array of PMCA isoforms that are expressed in concert with the rate of Ca2+ export.

Additional Information

Gene ID	491
Other Names	Plasma membrane calcium-transporting ATPase 2, PMCA2, 7.2.2.10, Plasma membrane calcium ATPase isoform 2, Plasma membrane calcium pump isoform 2, ATP2B2 {ECO:0000303|PubMed:15829536, ECO:0000312|HGNC:HGNC:815}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ATP2B2 {ECO:0000303|PubMed:15829536, ECO:0000312|HGNC:HGNC:815}
Function	ATP-driven Ca(2+) ion pump involved in the maintenance of basal intracellular Ca(2+) levels in specialized cells of cerebellar circuit and vestibular and cochlear systems (PubMed:15829536, PubMed:17234811). Uses ATP as an energy source to transport cytosolic Ca(2+) ions across the plasma membrane to the extracellular compartment (PubMed:15829536, PubMed:17234811). Has fast activation and Ca(2+) clearance rate suited to control fast neuronal Ca(2+) dynamics. At parallel fiber to Purkinje neuron synapse, mediates presynaptic Ca(2+) efflux in response to climbing fiber-induced Ca(2+) rise. Provides for fast return of Ca(2+) concentrations back to their resting levels, ultimately contributing to long-term depression induction and motor learning (By similarity). Plays an essential role in hearing and balance (PubMed:15829536, PubMed:17234811). In cochlear hair cells, shuttles Ca(2+) ions from stereocilia to the endolymph and dissipates Ca(2+) transients generated by the opening of the mechanoelectrical transduction channels. Regulates Ca(2+) levels in the vestibular system, where it contributes to the formation of otoconia (PubMed:15829536, PubMed:17234811). In non-excitable cells, regulates Ca(2+) signaling through spatial control of Ca(2+) ions extrusion and dissipation of Ca(2+) transients generated by store-operated channels (PubMed:25690014). In lactating mammary gland, allows for the high content of Ca(2+) ions in the milk (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Synapse {ECO:0000250|UniProtKB:Q9R0K7} [Isoform WB]: Apical cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q9R0K7}. Basolateral cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q9R0K7} [Isoform ZA]: Basolateral cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q9R0K7}
Tissue Location	Mainly expressed in brain cortex. Found in low levels in skeletal muscle, heart muscle, stomach, liver, kidney and lung. Isoforms containing segment B are found in brain cortex and at low levels in other tissues. Isoforms containing segments X and W are found at low levels in all tissues. Isoforms containing segment A and segment Z are found at low levels in skeletal muscle and heart muscle

Background

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.