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Calmodulin 1 Recombinant Rabbit mAb

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Catalog # AP94823

Product Information

Application	WB, IHC-P, IHC-F, IF, IP
Primary Accession	P0DP23
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	16838
Physical State	Liquid
Immunogen	A synthesized peptide derived from human Calmodulin 1
Epitope Specificity	100-149
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	10mM phosphate buffered saline(pH 7.4) with 150mM sodium chloride, 0.05% BSA, 0.02% Proclin300 and 50% glycerol.
SUBCELLULAR LOCATION	Cytoplasm, cytoskeleton, spindle. Cytoplasm, cytoskeleton, spindle pole. Note=Distributed throughout the cell during interphase, but during mitosis becomes dramatically localized to the spindle poles and the spindle microtubules.
SIMILARITY	Belongs to the calmodulin family. Contains 4 EF-hand domains.
SUBUNIT	Interacts with MYO1C and RRAD. Interacts with MYO10 (By similarity). Interacts with CEP97, CEP110, TTN/titin and SRY. Interacts with USP6; the interaction is calcium dependent. Interacts with CDK5RAP2. Interacts with SCN5A. Interacts with RYR1 and RYR2.
Post-translational modifications	Ubiquitination results in a strongly decreased activity. Phosphorylation results in a decreased activity.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Calmodulin acts as part of a calcium signal transduction pathway by mediating the control of a large number of enzymes, ion channels, aquaporins and other proteins through calcium-binding. Calcium-binding is required for the activation of calmodulin.

Additional Information

Gene ID	801;805;808
Other Names	Calmodulin-1 {ECO:0000312|HGNC:HGNC:1442}, CALM1 {ECO:0000303|PubMed:7925473, ECO:0000312|HGNC:HGNC:1442}
Dilution	WB=1:500-2000,IHC-P=1:50-200,IHC-F=1:50-200,ICC/IF=1:50-200,IF=1:50-200,IP=1:20-50,Flow-Cyt=1:50-100

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

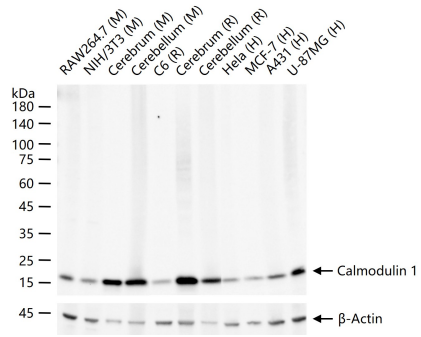
Name	CALM1 {ECO:0000303|PubMed:7925473, ECO:0000312|HGNC:HGNC:1442}
Function	Calmodulin acts as part of a calcium signal transduction pathway by mediating the control of a large number of enzymes, ion channels, aquaporins and other proteins through calcium-binding (PubMed:16760425, PubMed:23893133, PubMed:26969752, PubMed:27165696, PubMed:28890335, PubMed:31454269, PubMed:35568036). Calcium-binding is required for the activation of calmodulin (PubMed:16760425, PubMed:23893133, PubMed:26969752, PubMed:27165696, PubMed:28890335, PubMed:31454269, PubMed:35568036). Among the enzymes to be stimulated by the calmodulin-calcium complex are a number of protein kinases, such as myosin light-chain kinases and calmodulin-dependent protein kinase type II (CaMK2), and phosphatases (PubMed:16760425, PubMed:23893133, PubMed:26969752, PubMed:27165696, PubMed:28890335, PubMed:31454269, PubMed:35568036). Together with CCP110 and centrin, is involved in a genetic pathway that regulates the centrosome cycle and progression through cytokinesis (PubMed:16760425). Is a regulator of voltage- dependent L-type calcium channels (PubMed:31454269). Mediates calcium- dependent inactivation of CACNA1C (PubMed:26969752). Positively regulates calcium-activated potassium channel activity of KCNN2 (PubMed:27165696). Forms a potassium channel complex with KCNQ1 and regulates electrophysiological activity of the channel via calcium- binding (PubMed:25441029). Acts as a sensor to modulate the endoplasmic reticulum contacts with other organelles mediated by VMP1:ATP2A2 (PubMed:28890335).
Cellular Location	Cytoplasm, cytoskeleton, spindle. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cell projection, cilium, flagellum {ECO:0000250|UniProtKB:P0DP26} Note=Distributed throughout the cell during interphase, but during mitosis becomes dramatically localized to the spindle poles and the spindle microtubules

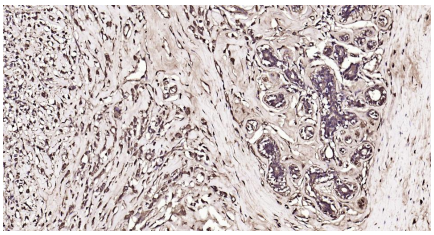
Background

Calmodulin acts as part of a calcium signal transduction pathway by mediating the control of a large number of enzymes, ion channels, aquaporins and other proteins through calcium-binding. Calcium-binding is required for the activation of calmodulin.

Images

25 ug total protein per lane of various lysates (see on figure) probed with Calmodulin 1 monoclonal antibody, unconjugated (AP94823) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.





Paraformaldehyde-fixed, paraffin embedded Human Breast Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with Calmodulin 1 Monoclonal Antibody, Unconjugated(AP94823) at 1:200 overnight at 4°C, followed by conjugation to the SP Kit (Rabbit, SP-0023)and DAB (C-0010) staining.

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