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phospho-Calmodulin 1/2/3 (Ser102) Rabbit pAb

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Catalog # AP94215

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P0DP23
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	16838
Physical State	Liquid
Immunogen	KLH conjugated synthesised phosphopeptide derived from human CaM I around the phosphorylation site of Ser102
Epitope Specificity	YI(p-S)AA
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	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 consists of two glycoproteins, 34 and 39 kDa, sometimes designated epithelial antigen, epithelial specific antigen, and epithelial glycoprotein. The glycoproteins are located on the cell membrane surface and in the cytoplasm of virtually all epithelial cells with the exception of most squamous epithelia, hepatocytes, renal proximal tubular cells, gastric parietal cells and myoepithelial cells. Epithelial Calmodulin is found in the large majority of adenocarcinomas of most sites (50-100% in various studies; as well as neuroendocrine tumours, including small cell carcinoma. Renal cell carcinoma and hepatocellular carcinoma stain in about 30% of the cases. Calmodulin mediates the control of a large number of enzymes and other proteins by Ca(2+). Among the enzymes to be stimulated by the calmodulin Ca(2+) complex are a number of protein kinases and phosphatases. Calmodulin has four functional calcium binding sites.

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	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:50-200
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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

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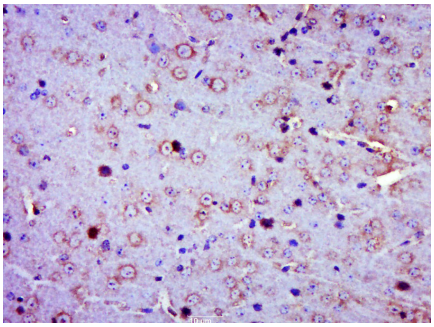
Images



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (phospho-CaM I (Ser 102)) Polyclonal Antibody, Unconjugated (AP94215) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.