

Calmodulin 1/2/3 Rabbit pAb
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Catalog # AP94168**Specification****Calmodulin 1/2/3 Rabbit pAb - Product Information**

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P0DP23
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	16-20 KDa
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Calmodulin
Epitope Specificity	81-152/152
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.

Calmodulin 1/2/3 Rabbit pAb - 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 ~ 1:1000
IHC-P ~ N/A
IHC-F ~ N/A
IF ~ 1:50 ~ 200

Format

0.01M TBS(pH7.4), 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.

Calmodulin 1/2/3 Rabbit pAb - 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](http://www.uniprot.org/citations/16760425), PubMed: [23893133](http://www.uniprot.org/citations/23893133), PubMed: [26969752](http://www.uniprot.org/citations/26969752), PubMed: [27165696](http://www.uniprot.org/citations/27165696), PubMed: [28890335](http://www.uniprot.org/citations/28890335), PubMed: [31454269](http://www.uniprot.org/citations/31454269), PubMed: [35568036](http://www.uniprot.org/citations/35568036)). Calcium-binding is required for the activation of calmodulin (PubMed: [16760425](http://www.uniprot.org/citations/16760425), PubMed: [23893133](http://www.uniprot.org/citations/23893133), PubMed: [26969752](http://www.uniprot.org/citations/26969752), PubMed: [27165696](http://www.uniprot.org/citations/27165696), PubMed: [28890335](http://www.uniprot.org/citations/28890335), PubMed: [31454269](http://www.uniprot.org/citations/31454269), PubMed: [35568036](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/16760425), PubMed: [23893133](http://www.uniprot.org/citations/23893133), PubMed: [26969752](http://www.uniprot.org/citations/26969752), PubMed: [27165696](http://www.uniprot.org/citations/27165696)).

target="_blank">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

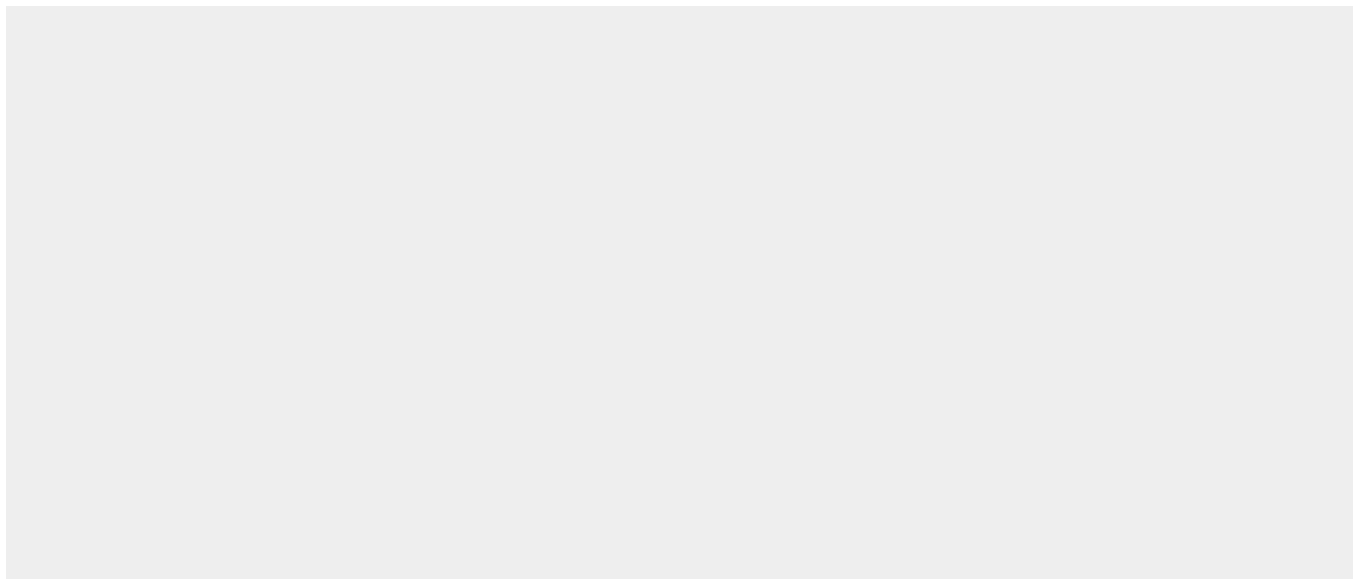
Cytoplasm, cytoskeleton, spindle. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cell projection, cilium, flagellum
{ECO:0000250|UniProtKB:P0DP26} Note=Distributed throughout the cell during interphase, but during mitosis becomes dramatically localized to the spindle poles and the spindle microtubules

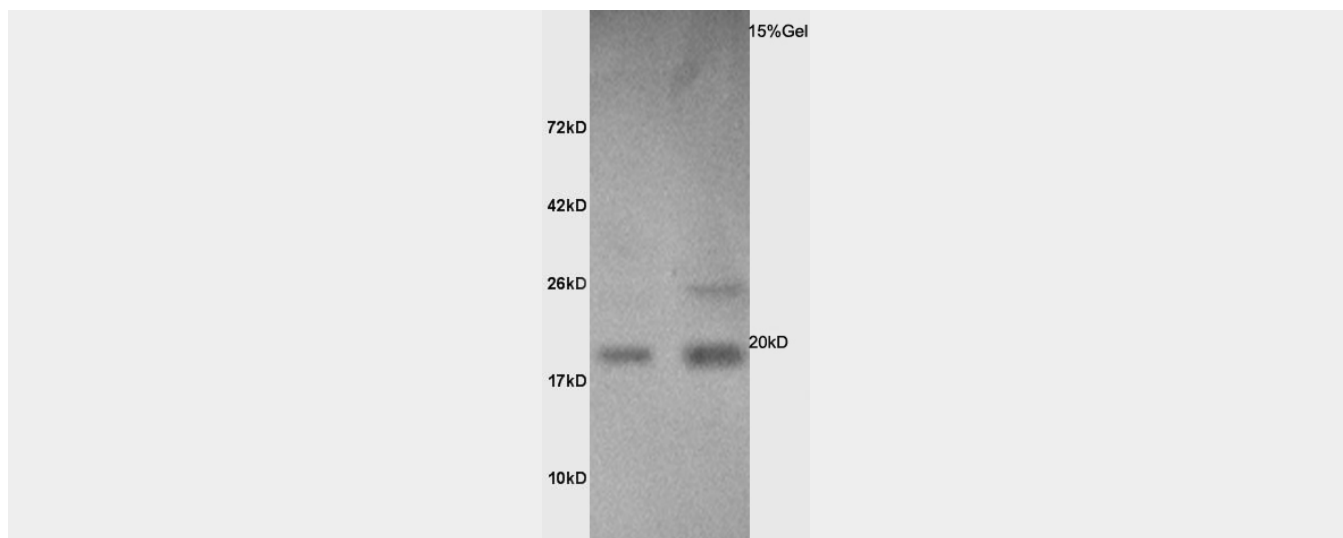
Calmodulin 1/2/3 Rabbit pAb - Protocols

Provided below are standard protocols that you may find useful for product applications.

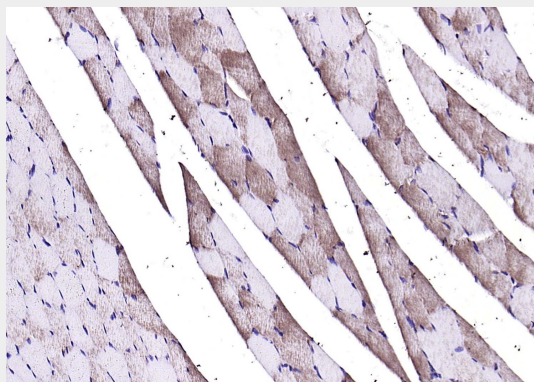
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Calmodulin 1/2/3 Rabbit pAb - Images

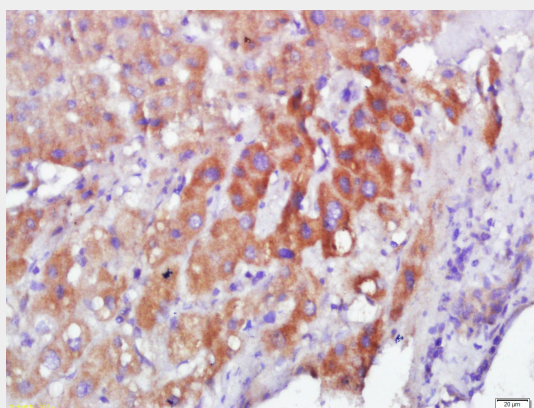




Sample: Lane1: Brain(Rat) Lysate at 30 ug Lane2: Liver(Rat) Lysate at 30 ug Primary: Anti-Calmodulin (AP94168) at 1:200 dilution; Secondary: HRP conjugated Goat Anti-Rabbit IgG(bs-0295G-HRP) at 1: 3000 dilution; Predicted band size : 16kD Observed band size : 20kD

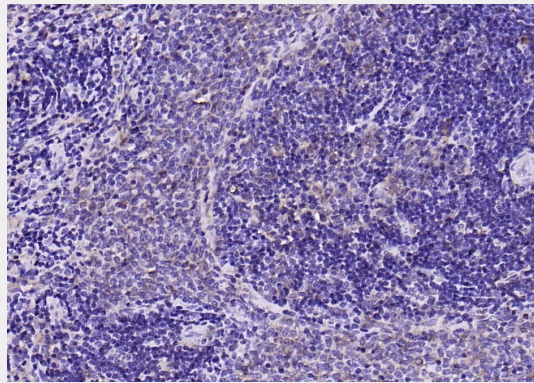


Paraformaldehyde-fixed, paraffin embedded (rat skeletal muscle); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Calmodulin 1/2/3) Polyclonal Antibody, Unconjugated (AP94168) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

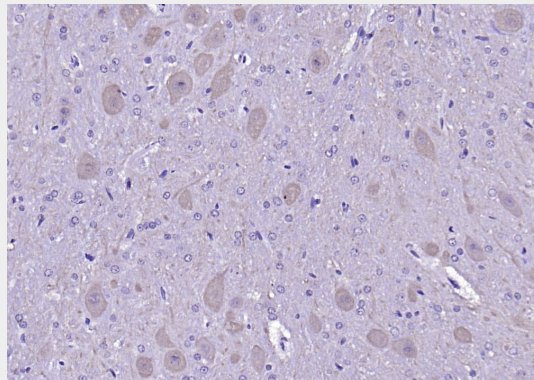


Tissue/cell: Human hepatocellular carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min; Incubation: Anti-Calmodulin Polyclonal Antibody, Unconjugated(AP94168) 1:400,

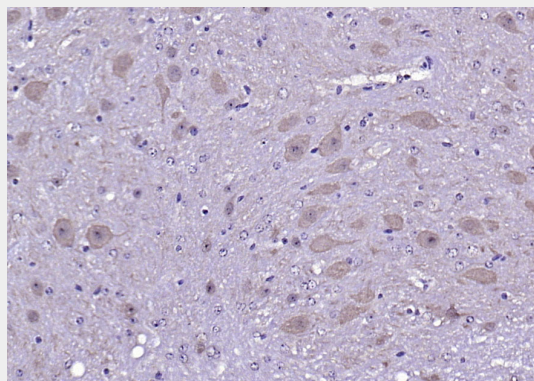
overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



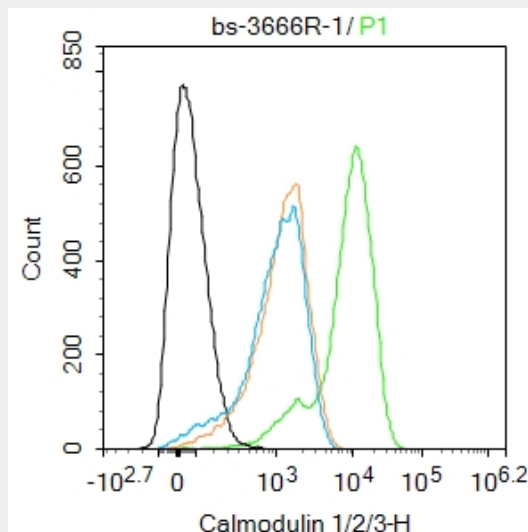
Paraformaldehyde-fixed, paraffin embedded (rat spleen); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Calmodulin 1/2/3) Polyclonal Antibody, Unconjugated (AP94168) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (rat cerebellum); 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 (Calmodulin 1/2/3) Polyclonal Antibody, Unconjugated (AP94168) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (mouse cerebellum); 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 (Calmodulin 1/2/3) Polyclonal Antibody, Unconjugated (AP94168) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Blank control—black line—:SH-SY5Y. Primary Antibody (green line): Rabbit Anti-Calmodulin 1/2/3 antibody (AP94168) Dilution:1ug/Test; Secondary Antibody—white blue line—: Goat anti-rabbit IgG-AF488 Dilution: 0.5ug/Test. Isotype control—orange line—: Normal Rabbit IgG Protocol The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at -20°C, The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.

Calmodulin 1/2/3 Rabbit pAb - Background

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