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Anti-Calmodulin Rabbit Monoclonal Antibody

Catalog # ABO14024

Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	P0DP23, P0DP24, P0DP25
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-Calmodulin Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	801;805;808
Calculated MW	16838
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:50 FC 1:50
Subcellular Localization	Cytoplasm, cytoskeleton, spindle. Cytoplasm, cytoskeleton, spindle pole. Distributed throughout the cell during interphase, but during mitosis becomes dramatically localized to the spindle poles and the spindle microtubules.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: BFB-3
Immunogen	A synthesized peptide derived from human Calmodulin
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	CALM1 {ECO:0000303|PubMed:7925473, ECO:0000312|HGNC:HGNC:1442}

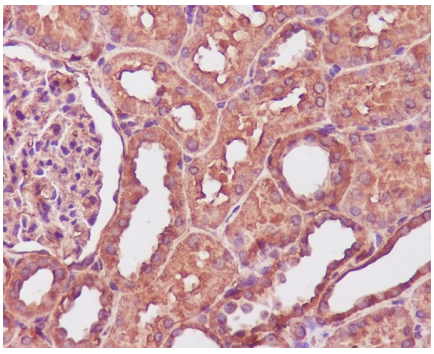
Function

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). Component of the silencing factor of the integrated stress response (SIFI) complex, a multiprotein complex required to turn off the mitochondrial stress response after a specific stress event has been resolved (PubMed:38297121, PubMed:40328314, PubMed:40875847).

Cellular Location

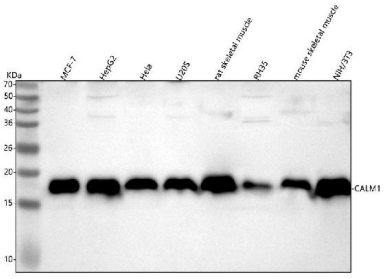
Cytoplasm, cytoskeleton, spindle. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cell projection, cilium, flagellum {ECO:0000250|UniProtKB:P0DP26} Note=Distributed throughout the cell during interphase, but during mitosis becomes dramatically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

Images



Immunohistochemical analysis of paraffin-embedded human kidney, using Calmodulin Antibody (M06609) CALM1 was detected in paraffin-embedded tissue section. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Calmodulin Antibody (M06609)overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Figure 1. Western blot analysis of Calmodulin using anti-Calmodulin antibody (M06609).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of



sample under reducing conditions.
Lane 1: human MCF-7 whole cell lysates,
Lane 2: human HepG2 whole cell lysates,
Lane 3: human Hela whole cell lysates,
Lane 4: human U20S whole cell lysates,
Lane 5: rat skeletal muscle tissue lysates,
Lane 6: rat RH35 whole cell lysates,
Lane 7: mouse skeletal muscle tissue lysates,
Lane 8: mouse NIH/3T3 whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Calmodulin antigen affinity purified monoclonal antibody (Catalog # M06609) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for Calmodulin at approximately 17 kDa. The expected band size for Calmodulin is at 17 kDa.

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