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CABP1 Rabbit pAb

Catalog # AP99680

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9NZU7
Other Accession	Q9NZU7
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	39838
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CABP1
Epitope Specificity	311-355/370
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 4 EF-hand domains.
SUBUNIT	Homodimer; when bound to calcium or magnesium. Interacts (via C-terminus) with ITPR1, ITPR2 and ITPR3. This binding is calcium dependent and the interaction correlates with calcium concentration. An additional calcium-independent interaction with the N-terminus of ITPR1 results in a decreased InsP(3) binding to the receptor. Interacts with CACNA1A (via C-terminal CDB motif) in the pre- and postsynaptic membranes. Interacts with CACNA1C (via C-terminal C and IQ motifs). The binding to the C motif is calcium independent whereas the binding to IQ requires the presence of calcium and is mutually exclusive with calmodulin binding. Interacts with CACNA1D (By similarity). Interacts with TRPC5 (via C-terminus). Interacts (via EF-hands 1 and 2) at microtubules with MAP1LC3B. Interacts with MYO1C and NELF
Post-translational modifications	Phosphorylated. The phosphorylation regulates the activity.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Calcium plays an essential role in many biological processes. The calcium binding protein (CaBP) family shares much similarity to calmodulin. It has been shown that CaBP proteins can substitute functionally for, and probably augment the function of, calmodulin. Calcium binding proteins are a crucial part of calcium mediated cellular signal transduction in the central nervous system. There are several members of the family with varying expression patterns. CaBP1 and CaBP2 can be expressed as multiple, alternatively spliced variants in brain and retina. CaBP3, CaBP4 and CaBP 5 are restricted to retinal rod and cone cells. CaBP7 shares 70% homology with CaBP8 and 50% homology with CaM I.

Additional Information

Gene ID	9478
Other Names	CALBRAIN; HCALB_BR; caldendrin; CABP1_HUMAN; CABP1; CABP1_MOUSE; calcium binding protein 1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
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	CABP1
Function	Modulates calcium-dependent activity of inositol 1,4,5- triphosphate receptors (ITPRs) (PubMed:14570872). Inhibits agonist- induced intracellular calcium signaling (PubMed:15980432). Enhances inactivation and does not support calcium-dependent facilitation of voltage-dependent P/Q-type calcium channels (PubMed:11865310). Causes calcium-dependent facilitation and inhibits inactivation of L-type calcium channels by binding to the same sites as calmodulin in the C- terminal domain of CACNA1C, but has an opposite effect on channel function (PubMed:15140941). Suppresses the calcium-dependent inactivation of CACNA1D (By similarity). Inhibits TRPC5 channels (PubMed:15895247). Prevents NMDA receptor-induced cellular degeneration. Required for the normal transfer of light signals through the retina (By similarity).
Cellular Location	Cytoplasm, cytoskeleton. Cytoplasm, perinuclear region. Cell membrane; Lipid-anchor; Cytoplasmic side. Golgi apparatus Postsynaptic density. Note=L-CaBP1 is associated most likely with the cytoskeletal structures, whereas S-CaBP1 is localized at or near the plasma membrane. [Isoform S-CaBP1]: Cytoplasm, cell cortex. Cell membrane; Lipid-anchor Note=S-CaBP1 is localized at or near the plasma membrane
Tissue Location	Retina and brain. Somatodendritic compartment of neurons. Calbrain was found exclusively in brain where it is abundant in the hippocampus, habenular area in the epithalamus and in the cerebellum

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