

CAPS2 Antibody

Catalog # ASC10679

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q86UW7
Other Accession	NP_060424 , 148839294
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	147735
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CAPS2 antibody can be used for detection of CAPS2 by Western blot at 0.5 - 1 μ g/mL. Antibody can also be used for immunohistochemistry starting at 5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	93664
Other Names	Calcium-dependent secretion activator 2, Calcium-dependent activator protein for secretion 2, CAPS-2, CADPS2, CAPS2, KIAA1591
Target/Specificity	CADPS2; Multiple isoforms of CAPS2 are known to exist. This CAPS2 antibody is predicted to be specific to CAPS2 and not recognize CAPS1.
Reconstitution & Storage	CAPS2 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	CAPS2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CADPS2
Synonyms	CAPS2, KIAA1591
Function	Calcium-binding protein involved in exocytosis of vesicles filled with neurotransmitters and neuropeptides. Probably acts upstream of fusion in the biogenesis or maintenance of mature secretory vesicles. Regulates neurotrophin release from granule cells leading to regulate cell differentiation and survival during cerebellar development. May specifically mediate the Ca(2+)-dependent exocytosis of large dense-core vesicles (DCVs) and other

dense-core vesicles (By similarity).

Cellular Location

Cytoplasmic vesicle membrane; Peripheral membrane protein; Cytoplasmic side. Synapse. Cell projection, cilium. Cytoplasm, cytoskeleton, cilium basal body. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Membrane-associated to vesicles Strongly enriched in synaptic fractions. Probably localizes to different vesicles compared to CADPS. Enriched on vesicular structures in the parallel fiber terminal of granule cells that are distinct from synaptic vesicles

Tissue Location

Widely expressed. Expressed in all adult and fetal tissues examined, with the strongest expression in kidney and pancreas In brain, it is expressed at high levels in cerebellum, to a lesser degree in cerebral cortex, occipital pole, and frontal and temporal lobes. Only weakly expressed in medulla, spinal cord and putamen

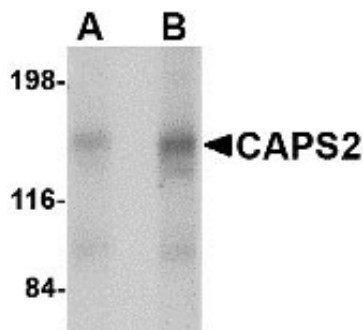
Background

CAPS2 Antibody: CAPS2 and the related protein CAPS1 encode novel neural/endocrine-specific cytosolic and peripheral membrane proteins. Both are essential components of the synaptic vesicle priming machinery and are required for the Ca^{2+} -regulated exocytosis of secretory vesicles; CAPS-deficient neurons contain no or very few fusion competent synaptic vesicles, causing a selective impairment of fast phasic transmitter release. Like CAPS1, numerous isoforms of CAPS2 are known to exist. These isoforms show distinct expression patterns in the brain. For example, CAPS2b showed high expression in the developing cerebellum. Furthermore, one version of CAPS2 mRNA that lacks exon 3 is detected in some autistic patients, suggesting that the differential expression pattern of CAPS2 is involved in neuronal development.

References

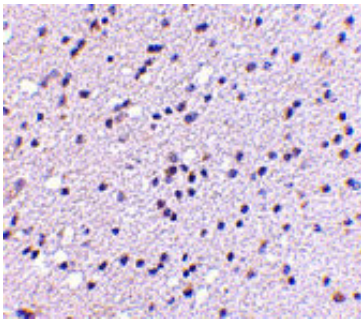
Walent JH, Porter BW, and Martin TF. A novel 145 kD brain cytosolic protein reconstitutes Ca^{2+} -regulated secretion in permeable neuroendocrine cells. *Cell* 1992; 70:765-775.
Juckusch WJ, Speidel D, Sigler A, et al. CAPS-1 and CAPS-2 are essential synaptic vesicle priming proteins. *Cell* 2007; 131:796-808.
Sadakata T, Washida M, and Furuichi T. Alternative splicing variants in mouse CAPS2: differential expression and functional properties of splicing variants. *BMC Neurosci.* 2007; 8:25-35.

Images

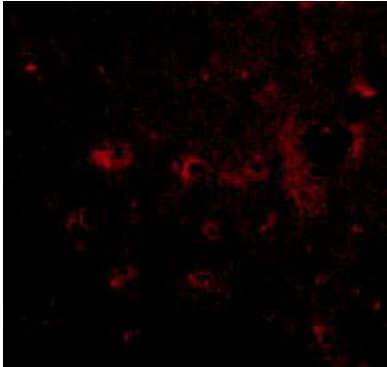


Western blot analysis of CAPS2 in human brain tissue lysate with CAPS2 antibody at (A) 0.5 and (B) 1 µg/mL.

Immunohistochemistry of CAPS2 in human brain with CAPS2 antibody at 5 µg/mL.



Immunofluorescence of CAPS2 in Human Brain tissue with CAPS2 antibody at 20 $\mu\text{g/mL}$.



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