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CALHM1 Antibody

Catalog # ASC11061

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q8IU99
Other Accession	NP_001001412, 194440685
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	38264
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CALHM1 antibody can be used for detection of CALHM1 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	255022
Other Names	Calcium homeostasis modulator protein 1, Protein FAM26C, CALHM1, FAM26C
Target/Specificity	CALHM1;
Reconstitution & Storage	CALHM1 antibody can be stored at 4℃ for three months and -20℃, 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	CALHM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CALHM1 {ECO:0000303|PubMed:18585350, ECO:0000312|HGNC:HGNC:23494}
Function	Pore-forming subunit of gustatory voltage-gated ion channels required for sensory perception of sweet, bitter and umami tastes (By similarity). With CALHM3 forms a fast-activating voltage-gated ATP- release channel in type II taste bud cells, ATP acting as a neurotransmitter to activate afferent neural gustatory pathways (By similarity) (PubMed:23467090). Acts both as a voltage-gated and calcium-activated ion channel: mediates neuronal excitability in response to membrane depolarization and low extracellular Ca(2+) concentration (PubMed:22711817, PubMed:23300080). Has poor ion

	selectivity and forms a wide pore (around 14 Angstroms) that mediates permeation of small ions including Ca(2+), Na(+), K(+) and Cl(-), as well as larger ions such as ATP(4-) (PubMed:22711817, PubMed:23300080, PubMed:32832629, PubMed:37380652). Mediates Ca(2+) influx and downstream activation of the ERK1 and ERK2 cascade in neurons (PubMed:23345406). Triggers endoplasmic reticulum stress by reducing the Ca(2+) content of the endoplasmic reticulum (PubMed:21574960). May indirectly control amyloid precursor protein (APP) proteolysis and aggregated amyloid-beta (Abeta) peptides levels in a Ca(2+)-dependent manner (PubMed:18585350).
Cellular Location	Cell membrane; Multi-pass membrane protein. Endoplasmic reticulum membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:D3Z291}. Note=Colocalizes with HSPA5 at the endoplasmic reticulum (PubMed:18585350). Localizes to the basolateral membrane of epithelial cells including taste cells (By similarity) {ECO:0000250|UniProtKB:D3Z291, ECO:0000269|PubMed:18585350}
Tissue Location	Predominantly expressed in adult brain. Detected also in retinoic acid-differentiated SH-SY5Y cells. Specifically expressed in circumvallate taste bud cells

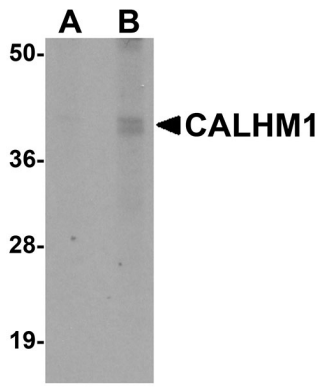
Background

CALHM1 Antibody: Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by a massive loss of neurons in several brain regions and by the presence of senile plaques comprised of aggregated amyloid-beta (Abeta) peptides produced by the endoproteolysis of the amyloid precursor protein (APP). The calcium homeostasis modulator 1 (CALHM1) is a recently identified multipass transmembrane glycoprotein that controls cytosolic Ca2+ concentration and Abeta levels. While some studies suggest CALHM1 is significantly associated with risk of AD, other reports suggest there is no link. CALHM1 has been suggested to modulate the Ca2+-dependent proteolytic process of APP through controlling the level of cytosolic Ca2+.

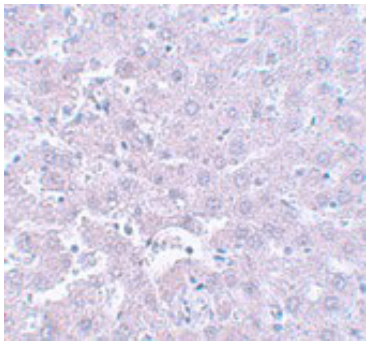
References

Mattson MP. Pathways towards and away from Alzheimer's disease. Nature2004; 430:631-9.
Dreses-Werringloer U, Lambert JC, Vingtdeux V, et al. A polymorphism in CALHM1 influences Ca2+ homeostasis, Ab levels, and Alzheimer 's disease risk. Cell2008; 133:1149-61.
Nacmias B, Tedde A, Bagnoli S, et al. Lack of implication for CALHM1 P86L common variation in Italian patients with early and late onset Alzheimer 's disease. J. Alzheimers Dis.2010; epub.

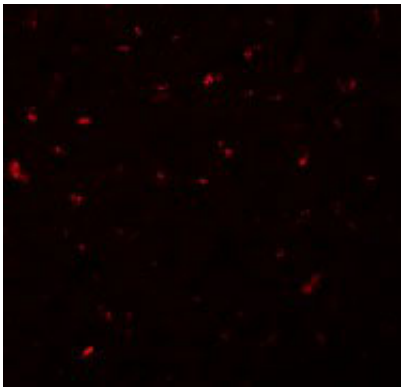
Images



Western blot analysis of CALHM1 in rat liver tissue lysate with CALHM1 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of CALHM1 in rat liver tissue with CALHM1 antibody at 5 µg/mL.



Immunofluorescence of CALHM1 in Rat Liver cells with CALHM1 antibody at 20 µg/mL.

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