

**CALHM1 Antibody**  
**Catalog # ASC11061****Specification****CALHM1 Antibody - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">Q8IU99</a>
Other Accession	<a href="#">NP_001001412</a> , <a href="#">194440685</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	CALHM1 antibody can be used for detection of CALHM1 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.

**CALHM1 Antibody - Additional Information**

Gene ID	255022
Target/Specificity	
CALHM1;	

**Reconstitution & Storage**

CALHM1 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**

CALHM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**CALHM1 Antibody - Protein Information**

**Name** CALHM1 ([HGNC:23494](#))

**Synonyms** FAM26C

**Function**

Pore-forming subunit of a voltage-gated ion channel required for sensory perception of sweet, bitter and umami tastes (By similarity). Specifically present in type II taste bud cells, where it plays a central role in sweet, bitter and umami taste perception by inducing ATP release from the cell, ATP acting as a neurotransmitter to activate afferent neural gustatory pathways (By similarity). Together with CALHM3, forms a fast-activating voltage-gated ATP-release channel in type II taste bud cells (TBCs) (By similarity). Acts both as a voltage-gated and calcium-activated ion channel: mediates neuronal excitability in response to changes in extracellular Ca(2+) concentration (PubMed:<a href="http://www.uniprot.org/citations/22711817" target="\_blank">22711817</a>, PubMed:<a href="http://www.uniprot.org/citations/23300080" target="\_blank">23300080</a>).

Has poor ion selectivity and forms a wide pore (around 14 Angstroms) that mediates permeation of  $\text{Ca}^{2+}$ ,  $\text{Na}^{+}$  and  $\text{K}^{+}$ , as well as permeation of monovalent anions (PubMed:<a href="http://www.uniprot.org/citations/22711817" target="\_blank">22711817</a>). Acts as an activator of the ERK1 and ERK2 cascade (PubMed:<a href="http://www.uniprot.org/citations/23345406" target="\_blank">23345406</a>). Triggers endoplasmic reticulum stress by reducing the calcium content of the endoplasmic reticulum (PubMed:<a href="http://www.uniprot.org/citations/21574960" target="\_blank">21574960</a>). May indirectly control amyloid precursor protein (APP) proteolysis and aggregated amyloid-beta (A $\beta$ ) peptides levels in a  $\text{Ca}^{2+}$  dependent manner (PubMed:<a href="http://www.uniprot.org/citations/18585350" target="\_blank">18585350</a>).

#### 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

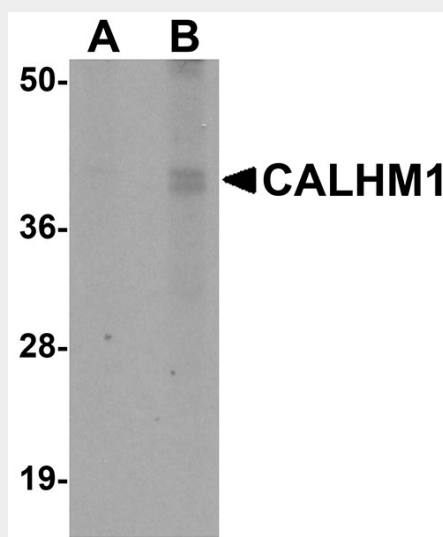
Predominantly expressed in adult brain. Detected also in retinoic acid-differentiated SH-SY5Y cells. Specifically expressed in circumvallate taste bud cells

### CALHM1 Antibody - Protocols

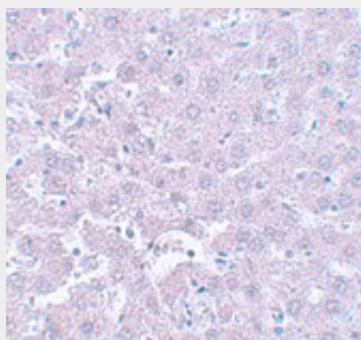
Provided below are standard protocols that you may find useful for product applications.

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

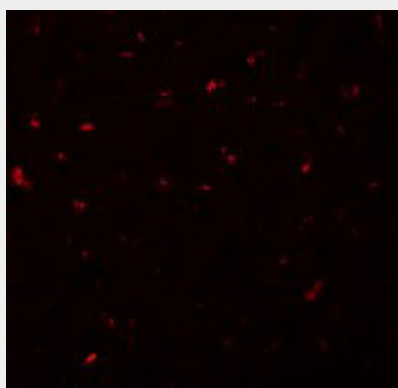
### CALHM1 Antibody - Images



Western blot analysis of CALHM1 in rat liver tissue lysate with CALHM1 antibody at (A) 1 and (B) 2  $\mu\text{g/mL}$ .



Immunohistochemistry of CALHM1 in rat liver tissue with CALHM1 antibody at 5  $\mu\text{g/mL}$ .



Immunofluorescence of CALHM1 in Rat Liver cells with CALHM1 antibody at 20  $\mu\text{g/mL}$ .

### **CALHM1 Antibody - 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 (A $\beta$ ) 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 Ca $^{2+}$  concentration and A $\beta$  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 Ca $^{2+}$ -dependent proteolytic process of APP through controlling the level of cytosolic Ca $^{2+}$ .

### **CALHM1 Antibody - References**

Mattson MP. Pathways towards and away from Alzheimer's disease. *Nature* 2004; 430:631-9.  
Dreses-Werringloer U, Lambert JC, Vingtdeux V, et al. A polymorphism in CALHM1 influences Ca $^{2+}$  homeostasis, A $\beta$  levels, and Alzheimer's disease risk. *Cell* 2008; 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.