

TMEM16A Antibody
Catalog # ASC10990**Specification****TMEM16A Antibody - Product Information**

Application	WB, E
Primary Accession	Q5XXA6
Other Accession	NP_060513 , 194306539
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	TMEM16A antibody can be used for detection of TMEM16A by Western blot at 1 µg/mL.

TMEM16A Antibody - Additional Information

Gene ID	55107
Target/Specificity	
ANO1;	

Reconstitution & Storage

TMEM16A 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

TMEM16A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TMEM16A Antibody - Protein Information

Name ANO1

Function

Calcium-activated chloride channel (CaCC) (PubMed:20056604, PubMed:22178883, PubMed:22946059, PubMed:32487539). Plays a role in transepithelial anion transport and smooth muscle contraction. Required for the normal functioning of the interstitial cells of Cajal (ICCs) which generate electrical pacemaker activity in gastrointestinal smooth muscles. Acts as a major contributor to basal and stimulated chloride conductance in airway epithelial cells and plays an important role in tracheal cartilage development. Required for CFTR activation by enhancing endoplasmic reticulum Ca(2+) store release and is also required for CFTR membrane expression (PubMed:28963502). Required for

basal and ATP-dependent mucus secretion in airways and intestine, probably by controlling exocytosis of mucus-filled granules by providing $\text{Ca}(2+)$ to an apical signaling compartment (By similarity). Contributes to airway mucus expression induced by interleukins IL3 and IL8 and by the asthma-associated protein CLCA1 and is required for expression of mucin MUC5AC (PubMed:33026825). However, was shown in another study not to be required for MUC5AC expression (PubMed:31732694). Plays a role in the propagation of $\text{Ca}(2+)$ waves in Kolliker's organ in the cochlea and contributes to the refinement of auditory brainstem circuitries prior to hearing onset (By similarity). In vomeronasal sensory neurons, modulates spontaneous firing patterns in the absence of stimuli as well as the firing pattern of pheromone- evoked activity (By similarity). Responsible for calcium-activated chloride channel activity in type I taste cells of the vallate papillae (By similarity). Acts as a heat sensor in nociceptive neurons (By similarity). In dorsal root ganglion neurons, plays a role in mediating non-histaminergic Mas-related G-protein coupled receptor (MRGPR)- dependent itching, acting as a downstream effector of MRGPRs (By similarity). In the developing brain, required for the $\text{Ca}(2+)$ -dependent process extension of radial glial cells (By similarity).

Cellular Location

Apical cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q8BHY3}. Presynapse {ECO:0000250|UniProtKB:Q8BHY3}. Note=In differentiating airway epithelial cells, predominantly intracellular at day 0 but is apically localized by day 30. Expressed in the presynapse of retinal neurons (By similarity). {ECO:0000250|UniProtKB:Q8BHY3}

Tissue Location

Expressed in nasal epithelial cells (at protein level) (PubMed:32487539). In the kidney, expressed in the collecting duct (at protein level) (PubMed:24913262). Broadly expressed with higher levels in liver, skeletal muscle and gastrointestinal muscles (PubMed:15215166, PubMed:16906560). Expressed in eccrine sweat glands (PubMed:25220078).

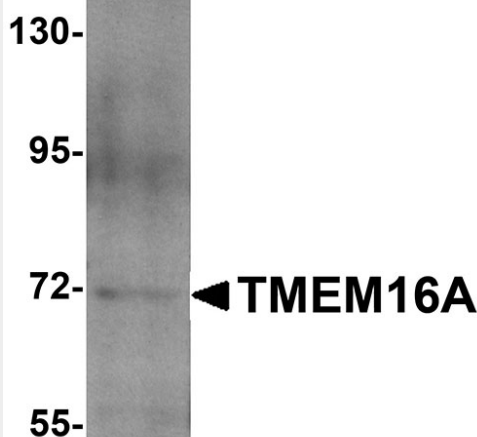
TMEM16A Antibody - Protocols

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](#)

TMEM16A Antibody - Images





Western blot analysis of TMEM16A in A549 cell lysate with TMEM16A antibody at 1 µg/mL.

TMEM16A Antibody - Background

TMEM16A Antibody: Calcium-activated chloride channels (CaCC) are present in many cell types and mediate physiological functions such as epithelial secretion, sensory signal transduction, and smooth muscle contraction. Subunits of these CaCC's include the transmembrane proteins TMEM16A and TMEM16B. TMEM16A is expressed in epithelial cells of the kidney and lung, pancreas, and sensory neurons and its mRNA is seen in foregut, airway epithelia, and tracheal smooth muscle; mice lacking TMEM16A fail to survive past ten days and show aerophagia and little weight gain. TMEM16A is also overexpressed or amplified in multiple cancers associated with poor survival such as oral cancers and gastrointestinal stromal tumors, suggesting the development of CaCC modulators may be a viable therapeutic strategy.

TMEM16A Antibody - References

Schroeder BC, Cheng T, Jan YN, et al. Expression cloning of TMEM16A as a calcium-activated chloride channel subunit. *Cell* 2008; 134:1019-29.
 Rock JR, Futtner CR, and Harfe BD. The transmembrane protein TMEM16A is required for normal development of the murine trachea. *Dev. Biol.* 2008; 214:399-411.
 Huang X, Godfrey TE, Gooding WE, et al. Comprehensive genome and transcriptome analysis of the 11q13 amplicon in human oral cancer and synteny to the 7F5 amplicon in murine oral carcinoma. *Genes Chromosomes Cancer* 2006; 45:10458-69.
 West RB, Corless CL, Chen X, et al. The novel marker, DOG1, is expressed ubiquitously in gastrointestinal stromal tumors irrespective of KIT or PDGRA mutation status. *Am. J. Pathol.* 2004; 165:107-13.