

**Anti-DOG-1 / TMEM16A Antibody**  
**Mouse Monoclonal Antibody**  
**Catalog # AH13454****Specification**

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**Anti-DOG-1 / TMEM16A Antibody - Product Information**

Application	IHC-P, IF, FC
Primary Accession	<a href="#">Q5XXA6</a>
Other Accession	<a href="#">503074</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2b, kappa
Calculated MW	114078

**Anti-DOG-1 / TMEM16A Antibody - Additional Information****Gene ID** 55107**Other Names**

Anoctamin 1; Calcium Activated Chloride Channel; Discovered On Gastrointestinal Stromal Tumors Protein 1; TAOS2; ORAOV2; TMEM16A

**Application Note**

IHC-P~~N/A  
IF~~1:50~200  
FC~~1:10~50

**Format**

200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA &amp; 0.05% azide. Also available WITHOUT BSA &amp; azide at 1.0mg/ml.

**Storage**

Store at 2 to 8°C. Antibody is stable for 24 months.

**Precautions**

Anti-DOG-1 / TMEM16A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Anti-DOG-1 / TMEM16A Antibody - Protein Information****Name** ANO1**Function**

Calcium-activated chloride channel (CaCC) (PubMed: [20056604](http://www.uniprot.org/citations/20056604), PubMed: [22178883](http://www.uniprot.org/citations/22178883), PubMed: [22946059](http://www.uniprot.org/citations/22946059), PubMed: [32487539](http://www.uniprot.org/citations/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  $\text{Ca}^{2+}$  store release and is also required for CFTR membrane expression (PubMed:<a href="http://www.uniprot.org/citations/28963502" target="\_blank">28963502</a>). 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:<a href="http://www.uniprot.org/citations/33026825" target="\_blank">33026825</a>). However, was shown in another study not to be required for MUC5AC expression (PubMed:<a href="http://www.uniprot.org/citations/31732694" target="\_blank">31732694</a>). 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).

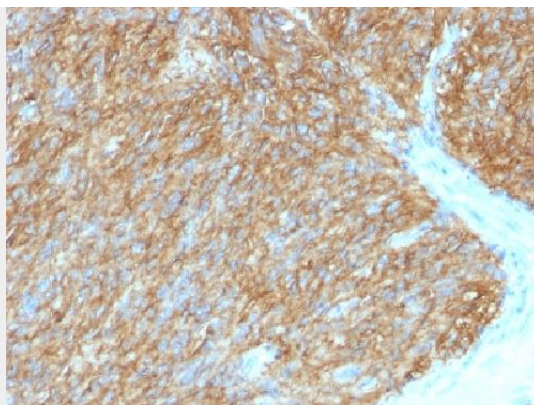
### Anti-DOG-1 / TMEM16A Antibody - Protocols

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](#)

### Anti-DOG-1 / TMEM16A Antibody - Images





Formalin-fixed, paraffin-embedded human GIST stained with DOG-1 Monoclonal Antibody (DG1/1486).

#### **Anti-DOG-1 / TMEM16A Antibody - Background**

Expression of DOG-1 protein is elevated in the gastrointestinal stromal tumors (GIST s), c-kit signaling-driven mesenchymal tumors of the GI tract. DOG-1 is rarely expressed in other soft tissue tumors, which, due to appearance, may be difficult to diagnose. Immunoreactivity for DOG-1 has been reported in 97.8 percent of scorable GIST s, including all c-kit negative GIST s. Overexpression of DOG-1 has been suggested to aid in the identification of GISTs, including Platelet-Derived Growth Factor Receptor Alpha mutants that fail to express c-kit antigen. The overall sensitivity of DOG1 and c-kit in GIST s is nearly identical: 94.4% vs. 94.7%.