10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# Anti-DOG-1 / TMEM16A Antibody

Mouse Monoclonal Antibody
Catalog # AH13454

## Product Information

| | |
|---|---|
| **Application** | IHC-P, IF, FC |
| **Primary Accession** | Q5XXA6 |
| **Other Accession** | 503074 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Isotype** | Mouse / IgG2b, kappa |
| **Clone Names** | DG1/1486 |
| **Calculated MW** | 114078 |

## 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** | Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (0.5-1ug/ml); ,Immunohistology (Formalin-fixed) (0.5-1.0ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined. |
| **Format** | 200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & 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. |

## Protein Information

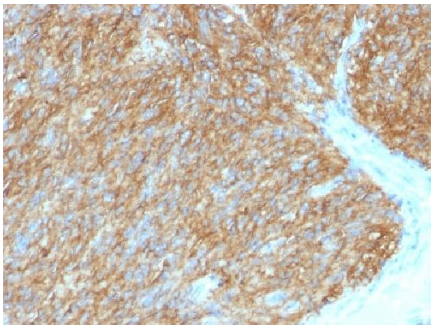
| | |
|---|---|
| **Name** | ANO1 |
| **Function** | Calcium-activated chloride channel (CaCC) (PubMed: 20056604, PubMed:22178883, PubMed:22946059, PubMed:32487539). Plays a role in transepithelial anion transport and smooth muscle contraction. Required for the normal functioning of the interstitial 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 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 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 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). |

## 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%.

## Images



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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.