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OTOP1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11995c

Product Information

Application	WB, IHC-P, E
Primary Accession	Q7RTM1
Other Accession	Q7M734, Q80VM9, NP_819056.1
Reactivity	Human, Rat, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB29945
Calculated MW	67353
Antigen Region	360-388

Additional Information

Gene ID	133060
Other Names	Otopetrin-1, OTOP1
Target/Specificity	This OTOP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 360-388 amino acids from the Central region of human OTOP1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	OTOP1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	OTOP1 {ECO:0000303|PubMed:12651873, ECO:0000312|HGNC:HGNC:19656}
Function	Proton-selective ion channel (PubMed: 29371428, PubMed:36266567). Biphasically modulated by acid and alkali, mediating proton influx and efflux

in response to extracellular acid and base stimulation, respectively. Sour taste receptor, which carries inward currents in response to extracellular acidification (By similarity). Sensor for ammonium chloride (NH(4)Cl) in taste receptor cells (PubMed:37798269). NH(4)Cl acts by increasing the intracellular pH, thereby generating a driving force for proton entry through OTOP1 channel (PubMed:37798269). Might also participate in alkaline sensation. Plays a role in the regulation of Ca(2+) flux in response to purigenic (ATP, ADP and UDP) stimuli, leading to increase in cytosolic Ca(2+) due to influx of extracellular calcium. May play this role by inhibiting P2Y purinoceptor-mediated Ca(2+) release in a Ca(2+)- dependent manner and promote an influx of Ca(2+) in response to ATP. Through this mechanism and possibly others, plays a role in the formation and function of calcium carbonate-based structures in the vestibular system of the inner ear, called otoconia, that sense gravity and linear acceleration. In obesity, may attenuate adipose tissue inflammation, through the negative regulation of IFNG signaling, hence may play an adaptive role in the maintainance of metabolic homeostasis. Following alkali activation, may also be permeable Na(+), K(+), Cs(+) and Li(+) (By similarity).

Cellular Location

Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:Q7ZWK8}. Cell projection, microvillus {ECO:0000250|UniProtKB:Q80VM9}. Note=Found in the gelatinous membrane overlying the inner ear macular epithelium Also detected in the apical microvilli in inner ear supporting cells {ECO:0000250|UniProtKB:Q80VM9}

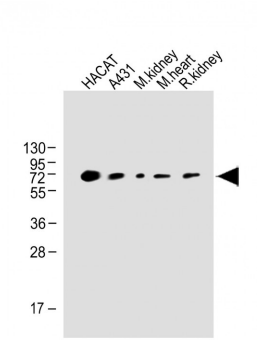
Background

OTOP1 is required for normal formation of otoconia in the inner ear. Inhibits P2Y purinoceptors. Modulates calcium homeostasis and influx of calcium in response to extracellular ATP (By similarity).

References

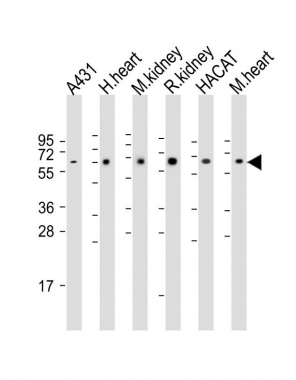
Hurle, B., et al. Hum. Mol. Genet. 12(7):777-789(2003)

Images

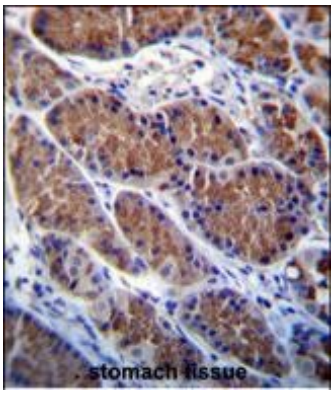


All lanes : Anti-OTOP1 Antibody (Center) at 1:1000 dilution Lane 1: HACAT whole cell lysate Lane 2: A431 whole tissue lysate Lane 3: Mouse kidney whole tissue lysate Lane 4: Mouse heart whole tissue lysate Lane 5: Rat kidney whole cell lysate Lane Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 67 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes : Anti-OTOP1 Antibody (Center) at 1:1000 dilution Lane 1: A431 whole cell lysate Lane 2: Human heart whole tissue lysate Lane 3: Mouse kidney whole tissue lysate Lane 4: Rat kidney whole tissue lysate Lane 5: HACAT whole cell lysate Lane 6: Mouse heart whole tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase



conjugated at 1/10000 dilution. Predicted band size : 67 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



OTOP1 Antibody (Center) (Cat. #AP11995c)immunohistochemistry analysis in formalin fixed and paraffin embedded human stomach tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of OTOP1 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.