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OTOP1 Rabbit pAb

Catalog # AP99856

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q7RTM1
Other Accession	Q7RTM1
Predicted	Rat, Pig, Human, Mouse, Rabbit, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	67353
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human OTOP1
Epitope Specificity	321-420/612
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the otopetrin family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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.

Additional Information

Gene ID	133060
Other Names	A530025J20Rik; Otp1; tlt; OTOP1_HUMAN; OTOP1; Otopetrin-1 (hOtop1); OTOP1_MOUSE; Otopetrin-1; otopetrin 1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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}

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