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SLC26A5 antibody - middle region

Rabbit Polyclonal Antibody
Catalog # AI12387

Product Information

Application	WB, IHC
Primary Accession	P58743
Other Accession	NM_198999, NP_945350
Reactivity	Human, Mouse, Rat, Rabbit, Pig, Dog, Guinea Pig, Horse, Bovine
Predicted	Human, Mouse, Rat, Rabbit, Pig, Dog, Guinea Pig, Horse, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	81264

Additional Information

Gene ID	375611
Alias Symbol	DFNB61, MGC118886, MGC118887, MGC118888, MGC118889, PRES
Other Names	Prestin, Solute carrier family 26 member 5, SLC26A5, PRES
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 100 ul of distilled water. Final anti-SLC26A5 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	SLC26A5 antibody - middle region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SLC26A5 (HGNC:9359)
Synonyms	PRES
Function	Voltage-sensitive motor protein that drives outer hair cell (OHC) electromotility (eM) and participates in sound amplification in the hearing organ (By similarity). Converts changes in the transmembrane electric potential into mechanical displacements resulting in the coupling of its expansion to movement of a charged voltage sensor across the lipid membrane (By similarity). The nature of the voltage sensor is not completely clear, and two models compete. In the first model, acts as an incomplete transporter where intracellular chloride anion acts as extrinsic voltage sensor that drives conformational change in the protein which is sufficient to

produce a length change in the plane of the membrane and hence in the length of the OHC (By similarity). The second model in which multiple charged amino acid residues are distributed at the intracellular and extracellular membrane interfaces that form an intrinsic voltage sensor, whose movement produces the non-linear capacitance (NLC) (PubMed:34390643). However, the effective voltage sensor may be the result of a hybrid voltage sensor, assembled from intrinsic charge (charged residues) and extrinsic charge (bound anion) (By similarity). Notably, binding of anions to the anion-binding pocket partially neutralizes the intrinsic positive charge rather than to form an electrically negative sensor, therefore remaining charge may serve as voltage sensor that, after depolarization, moves from down (expanded state) to up (contracted) conformation, which is accompanied by an eccentric contraction of the intermembrane cross-sectional area of the protein as well as a major increase in the hydrophobic thickness of the protein having as consequences the plasma membrane thickening and the cell contraction after membrane depolarization (PubMed:34390643). The anion-binding pocket transits from the inward-open (Down) state, where it is exposed toward the intracellular solvent in the absence of anion, to the occluded (Up) state upon anion binding (PubMed:34390643). Salicylate competes for the anion-binding site and inhibits the voltage-sensor movement, and therefore inhibits the charge transfer and electromotility by displacing Cl(-) from the anion-binding site and by preventing the structural transitions to the contracted state (PubMed:34390643). In addition, can act as a weak Cl(-)/HCO3(-) antiporter across the cell membrane and so regulate the intracellular pH of the outer hair cells (OHCs), while firstly found as being unable to mediate electrogenic anion transport (By similarity). Moreover, supports a role in cardiac mechanical amplification serving as an elastic element to enhance the actomyosin- based sarcomere contraction system (By similarity).

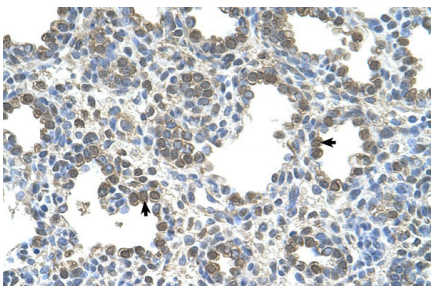
Cellular Location

Lateral cell membrane; Multi-pass membrane protein. Note=Localized at the lateral cell membrane of outer hair cells (By similarity). Alters profoundly the shape of its surrounding lipid bilayer (PubMed:34390643). {ECO:0000250, ECO:0000250|UniProtKB:Q9JKQ2, ECO:0000269|PubMed:34390643}

References

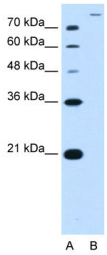
Chambard,J.M.(2005)PflugersArch.450(1),34-44ReconstitutionandStorage:Forshorttermuse,storeat2-8Cupto1 week.Forlongtermstorage,storeat-20Cinsmallaliquotstopreventfreeze-thawcycles.

Images



Human Lung

WB Suggested Antibody Titration: 2.5 µg/ml
Positive Control: HepG2



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