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SLC26A5 / prestin Antibody (N-Term, near)

Peptide-affinity purified goat antibody
Catalog # AF2899a

Specification

SLC26A5 / prestin Antibody (N-Term, near) - Product Information

Application	**E**
Primary Accession	P58743
Other Accession	NP_945350.1, NP_996766.1, NP_996767.1, NP_996768.1, 375611
Predicted	**Human**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**81264**

SLC26A5 / prestin Antibody (N-Term, near) - Additional Information

Gene ID 375611

Other Names
Prestin, Solute carrier family 26 member 5, SLC26A5, PRES

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
SLC26A5 / prestin Antibody (N-Term, near) is for research use only and not for use in diagnostic or therapeutic procedures.

SLC26A5 / prestin Antibody (N-Term, near) - 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}

SLC26A5 / prestin Antibody (N-Term, near) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SLC26A5 / prestin Antibody (N-Term, near) - Images

SLC26A5 / prestin Antibody (N-Term, near) - Background

This antibody is expected to recognize reported isoforms NP_996768.1; NP_996767.1; NP_996766.1; NP_945350.1.

SLC26A5 / prestin Antibody (N-Term, near) - References

Prestin-based outer hair cell motility is necessary for mammalian cochlear amplification. Dallos P, Wu X, Cheatham MA, Gao J, Zheng J, Anderson CT, Jia S, Wang X, Cheng WH, Sengupta S, He DZ, Zuo J. Neuron 2008 May 58 (3): 333-9. PMID: 18466744