

## Recombinant Homo sapiens Prestin

Catalog No: #AP72784



Package Size: #AP72784-1 20ug #AP72784-2 100ug #AP72784-3 1mg

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## Description

Product Name	Recombinant Homo sapiens Prestin
Brief Description	Recombinant Protein
Host Species	Yeast
Purification	Greater than 90% as determined by SDS-PAGE.
Immunogen Description	Expression Region:501-744aaSequence Info:Cytoplasmic Domain
Other Names	Solute carrier family 26 member 5
Accession No.	P58743
Uniprot	P58743
GeneID	375611;
Calculated MW	29 kDa
Tag Info	N-terminal 6xHis-tagged
Target Sequence	YRTQSPSYKVLGKLPETDVYIDIDAYEEVKEIPGIKIFQINAPIYYANSDLYSNALKRKTGVNPAVIMGARRKAMR KYAKEVGNANMANATVVKADAEVDGEDATKPEEEDGEVKYPPPIVIKSTFPEEMQRFMPPGDNVHTVILDFTQV NFIDSVGVKTLGIVKEYGDVGIYVYLAGCSAQVNDLTRNRFFENPALWELLFHSIHDAVLGSQLREALAEQE ASAPPSQEDLEPNATPATPEA
Formulation	Tris-based buffer50% glycerol
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.  Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

## Background

Motor protein that converts auditory stimuli to length changes in outer hair cells and mediates sound amplification in the mammalian hearing organ. Prestin is a bidirectional voltage-to-force converter, it can operate at microsecond rates. It uses Cytoplasmic domain anions as extrinsic voltage sensors, probably chloride and bicarbonate. After binding to a site with millimolar affinity, these anions are translocated across the mbrane in response to changes in the transbrane voltage. They move towards the Extracellular domain surface following hyperpolarization, and towards the Cytoplasmic domain side in response to depolarization. As a consequence, this translocation triggers conformational changes in the protein that ultimately alter its surface area in the plane of the plasma mbrane. The area decreases when the anion is near the Cytoplasmic domain face of the mbrane (short state), and increases when the ion has crossed the mbrane to the outer surface (long state). So, it acts as an incomplete transporter. It swings anions across the mbrane, but does not allow these anions to dissociate and escape to the Extracellular domain space. Salicylate, an inhibitor of outer hair cell motility, acts as competitive antagonist at the prestin anion-binding site .

## References

Prestin, a cochlear motor protein, is defective in non-syndromic hearing loss.Liu X.Z., Ouyang X.M., Xia X.J., Zheng J., Pandya A., Li F., Du L.L., Welch K.O., Petit C., Smith R.J.H., Webb B.T., Yan D., Amos K.S., Corey D., Dallos P., Nance W.E., Chen Z.-Y.Hum. Mol. Genet. 12:1155-1162(2003)Research Topic:Neuroscience

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Note: This product is for in vitro research use only