

Prestin (C-16): sc-22694

BACKGROUND

The most impressive property of outer hair cells (OHCs) is their ability to change their length at high acoustic frequencies, thus providing the exquisite sensitivity and frequency-resolving capacity of the mammalian hearing organ. Prestin, a transmembrane protein found in the outer hair cells of the cochlea, is related to a sulfate/anion transport protein. In contrast to enzymatic-activity-based motors, Prestin is a direct voltage-to-force converter which uses cytoplasmic anions as extrinsic voltage sensors and can operate at microsecond rates. Intracellular anions such as chloride or bicarbonate are essential for Prestin to function as the OHC motor molecule. As Prestin mediates changes in outer hair cell length in response to membrane potential variations, it may be responsible for sound amplification in the mammalian hearing organ. Additionally, the voltage sensitivity of Prestin is markedly temperature-dependent.

CHROMOSOMAL LOCATION

Genetic locus: SLC26A5 (human) mapping to 7q22.1; Slc26a5 (mouse) mapping to 5 A3.

SOURCE

Prestin (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Prestin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22694 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Prestin (C-16) is recommended for detection of Prestin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Prestin (C-16) is also recommended for detection of Prestin in additional species, including bovine and porcine.

Suitable for use as control antibody for Prestin siRNA (h): sc-40991, Prestin siRNA (m): sc-40992, Prestin shRNA Plasmid (h): sc-40991-SH, Prestin shRNA Plasmid (m): sc-40992-SH, Prestin shRNA (h) Lentiviral Particles: sc-40991-V and Prestin shRNA (m) Lentiviral Particles: sc-40992-V.

Molecular Weight of Prestin: 81 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

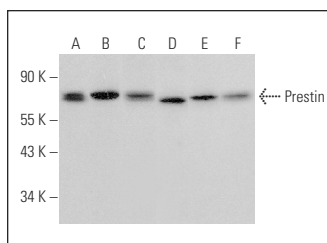
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

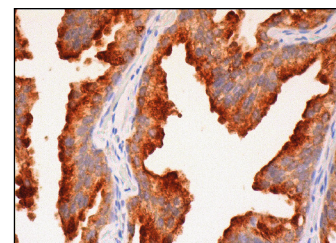
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Prestin (C-16): sc-22694. Western blot analysis of Prestin expression in PC-12 (A), HeLa (B), U-251-MG (C), Neuro-2A (D), K-562 (E) and Jurkat (F) whole cell lysates.



Prestin (C-16): sc-22694. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Wu, X., et al. 2007. Prestin-Prestin and Prestin-Glut5 interactions in HEK293T cells. *Dev. Neurobiol.* 67: 483-497.
2. Kitsunai, Y., et al. 2007. Effects of heat stress on filamentous actin and prestin of outer hair cells in mice. *Brain Res.* 1177: 47-58.
3. Chen, G.D., et al. 2009. Aging outer hair cells (OHCs) in the Fischer 344 rat cochlea: function and morphology. *Hear. Res.* 248: 39-47.
4. Yang, K., et al. 2009. Long-term administration of salicylate enhances prestin expression in rat cochlea. *Int. J. Audiol.* 48: 18-23.
5. Tanaka, C., et al. 2009. Ameliorative effects of an augmented acoustic environment on age-related hearing loss in middle-aged Fischer 344/NHsd rats. *Laryngoscope* 119: 1374-1379.
6. Hurd, E.A., et al. 2011. Mature middle and inner ears express Chd7 and exhibit distinctive pathologies in a mouse model of CHARGE syndrome. *Hear. Res.* 282: 184-195.
7. Tanaka, C., et al. 2012. Expression pattern of oxidative stress and antioxidant defense-related genes in the aging Fischer 344/NHsd rat cochlea. *Neurobiol. Aging* 33: 1842.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Prestin (1F4): sc-293212**, our highly recommended monoclonal alternative to Prestin (C-16).