

Whirlin (S-19): sc-49787

BACKGROUND

Whirlin is a cytoplasmic PDZ domain-containing protein that plays a role in elongation and maintenance of stereocilia, mechanosensory organelles located in hair cells of the inner ear. Whirlin co-localizes with actin filaments and is primarily detected in cochlear hair cells. It is connected to the dynamic Usher protein interactome and has a pleiotropic function in both the retina and the inner ear. Myosin XVa is a motor protein that associates with the second and third PDZ domain of Whirlin through its C-terminal PDZ-ligand. Myosin XVa then delivers Whirlin to the tips of stereocilia, which are subsequently elongated. p55 also interacts with Whirlin, and mutations in DFNB31, the Whirlin gene, lead to an early ablation of p55 labeling of stereocilia, which may cause recessive hearing loss in rats and humans.

REFERENCES

- Belyantseva, I.A., et al. 2003. Stereocilia: the long and the short of it. *Trends Mol. Med.* 9: 458-461.
- Mburu, P., et al. 2003. Defects in Whirlin, a PDZ domain molecule involved in stereocilia elongation, cause deafness in the whirler mouse and families with DFNB31. *Nat. Genet.* 34: 421-428.
- Belyantseva, I.A., et al. 2005. Myosin XVa is required for tip localization of Whirlin and differential elongation of hair-cell stereocilia. *Nat. Cell Biol.* 7: 148-156.
- Delprat, B., et al. 2005. Myosin XVa and Whirlin, two deafness gene products required for hair bundle growth, are located at the stereocilia tips and interact directly. *Hum. Mol. Genet.* 14: 401-410.
- Adato, A., et al. 2005. Usherin, the defective protein in Usher syndrome type IIA, is likely to be a component of interstereocilia ankle links in the inner ear sensory cells. *Hum. Mol. Genet.* 14: 3921-3932.
- Rzadzinska, A., Schneider, M., Noben-Trauth, K., Bartles, J.R. and Kachar, B. 2005. Balanced levels of Espin are critical for stereociliary growth and length maintenance. *Cell Motil. Cytoskeleton* 62: 157-165.

CHROMOSOMAL LOCATION

Genetic locus: DFNB31 (human) mapping to 9q32; Whrn (mouse) mapping to 4 C1.

SOURCE

Whirlin (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Whirlin 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-49787 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Whirlin (S-19) is recommended for detection of Whirlin, isoforms 1 and 2 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); non cross-reactive with isoforms 3 and 4.

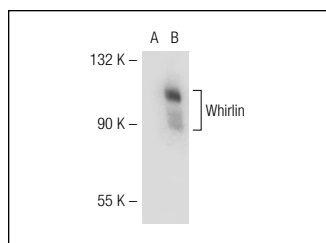
Whirlin (S-19) is also recommended for detection of Whirlin, isoforms 1 and 2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Whirlin siRNA (h): sc-61800, Whirlin siRNA (m): sc-61801, Whirlin shRNA Plasmid (h): sc-61800-SH, Whirlin shRNA Plasmid (m): sc-61801-SH, Whirlin shRNA (h) Lentiviral Particles: sc-61800-V and Whirlin shRNA (m) Lentiviral Particles: sc-61801-V.

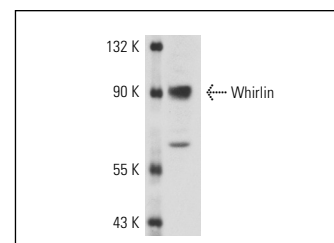
Molecular Weight of Whirlin: 97 kDa.

Positive Controls: Whirlin (h): 293T Lysate: sc-112679 or mouse cerebellum extract: sc-2403.

DATA



Whirlin (S-19): sc-49787. Western blot analysis of Whirlin expression in non-transfected: sc-117752 (A) and human Whirlin transfected: sc-112679 (B) 293T whole cell lysates.



Whirlin (S-19): sc-49787. Western blot analysis of Whirlin expression in mouse cerebellum tissue extract.

SELECT PRODUCT CITATIONS

- Zalocchi, M., et al. 2010. Biochemical characterization of native Usher protein complexes from a vesicular subfraction of tracheal epithelial cells. *Biochemistry* 49: 1236-1247.

RESEARCH USE

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


 MONOS
Satisfaction
Guaranteed

Try **Whirlin (G-8): sc-365250** or **Whirlin (A-12): sc-271508**, our highly recommended monoclonal alternatives to Whirlin (S-19).