

# Cochlin (H-80): sc-67220

## BACKGROUND

Cochlin is a secreted protein encoded by the coagulation factor C homology (COCH) gene, a cochlear gene. It constitutes 70% of the inner ear proteins and is classified into three glycosylated isoforms: p63s, p44s and p40. Cochlin contains an N-terminal LCCL domain and two von Willebrand factor A-like domains. Mutations in the COCH gene cause DFNA9, an autosomal dominant nonsyndromic auditory and vestibular dysfunction disorder, as a result of either an amino acid deletion in the LCCL domain or missense substitutions. Microfibrillar deposits accumulate in the inner ear of individuals with DFNA9 and these deposits may contain the Cochlin protein. Cochlin is a target antigen for autoimmune sensorineural hearing loss.

## REFERENCES

- Robertson, N.G., et al. 1998. Mutations in a novel cochlear gene cause DFNA9, a human nonsyndromic deafness with vestibular dysfunction. *Nat. Genet.* 20: 299-303.
- Robertson, N.G., et al. 2003. Subcellular localization, secretion and post-translational processing of normal Cochlin, and of mutants causing the sensorineural deafness and vestibular disorder, DFNA9. *J. Med. Genet.* 40: 479-486.
- Lair, V., et al. 2004. Thermodynamic study of the protonation of dimethyldecylamine N-oxide micelles in aqueous solution at 298 K. Establishment of a theoretical relationship linking critical micelle concentrations and pH. *Langmuir* 20: 8490-8495.
- Li, L., et al. 2005. Expression of full-length Cochlin p63s is inner ear specific. *Auris Nasus Larynx* 32: 219-223.
- Bhattacharya, S.K., et al. 2005. Cochlin deposits in the trabecular meshwork of the glaucomatous DBA/2J mouse. *Exp. Eye Res.* 80: 741-744.
- Makishima, T., et al. 2005. Targeted disruption of mouse Coch provides functional evidence that DFNA9 hearing loss is not a COCH haploinsufficiency disorder. *Hum. Genet.* 118: 29-34.
- Robertson, N.G., et al. 2006. Cochlin immunostaining of inner ear pathologic deposits and proteomic analysis in DFNA9 deafness and vestibular dysfunction. *Hum. Mol. Genet.* 15: 1071-1085.

## CHROMOSOMAL LOCATION

Genetic locus: COCH (human) mapping to 14q12; Coch (mouse) mapping to 12 C1.

## SOURCE

Cochlin (H-80) is a rabbit polyclonal antibody raised against amino acids 401-480 mapping near the C-terminus of Cochlin 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.

## RESEARCH USE

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

## APPLICATIONS

Cochlin (H-80) is recommended for detection of Cochlin 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cochlin (H-80) is also recommended for detection of Cochlin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Cochlin siRNA (h): sc-60427, Cochlin siRNA (m): sc-60428, Cochlin shRNA Plasmid (h): sc-60427-SH, Cochlin shRNA Plasmid (m): sc-60428-SH, Cochlin shRNA (h) Lentiviral Particles: sc-60427-V and Cochlin shRNA (m) Lentiviral Particles: sc-60428-V.

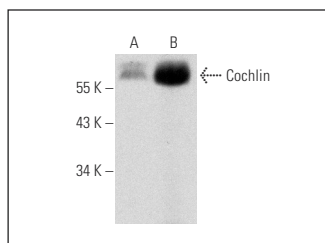
Molecular Weight of Cochlin: 60 kDa.

Positive Controls: human placenta extract: sc-363772, human cerebellum tissue extract or mouse eye extract: sc-364241.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Cochlin (H-80): sc-67220. Western blot analysis of Cochlin expression in human cerebellum (A) and human placenta (B) tissue extracts.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.