

# otoancorin (K-14): sc-165164

## BACKGROUND

Otoancorin, also known as OTOA, CT108 or DFNB22, is a 1,153 amino acid protein belonging to the stereocilin family. Expressed in the inner ear and restricted to the interface between the apical surface of sensory epithelia, otoancorin is suggested to act as an adhesion molecule. Otoancorin ensures the attachment of the inner ear acellular gels to the apical surface of the underlying nonsensory cells. Mutations in the gene encoding otoancorin leads to deafness autosomal recessive type 22 (DFNB22), which is a form of sensorineural hearing loss. Sensorineural deafness results from damage to the neural receptors of the inner ear, the nerve pathways to the brain or the area of the brain that receives sound information. Existing as three alternatively spliced isoforms, otoancorin is encoded by a gene located on human chromosome 16p12.2.

## REFERENCES

- Jovine, L., et al. 2002. Sequence similarity between stereocilin and otoancorin points to a unified mechanism for mechanotransduction in the mammalian inner ear. *BMC Cell Biol.* 3: 28.
- Zwaenepoel, I., et al. 2002. Otoancorin, an inner ear protein restricted to the interface between the apical surface of sensory epithelia and their overlying acellular gels, is defective in autosomal recessive deafness DFNB22. *Proc. Natl. Acad. Sci. USA* 99: 6240-6245.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607039. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Walsh, T., et al. 2006. Genomic analysis of a heterogeneous Mendelian phenotype: multiple novel alleles for inherited hearing loss in the Palestinian population. *Hum. Genomics* 2: 203-211.
- Sathyanarayana, B.K., et al. 2009. Mesothelin, Stereocilin, and Otoancorin are predicted to have superhelical structures with ARM-type repeats. *BMC Struct. Biol.* 9: 1.
- Shahin, H., et al. 2010. Five novel loci for inherited hearing loss mapped by SNP-based homozygosity profiles in Palestinian families. *Eur. J. Hum. Genet.* 18: 407-413.

## CHROMOSOMAL LOCATION

Genetic locus: OTOA (human) mapping to 16p12.2; Otoa (mouse) mapping to 7 F2.

## SOURCE

otoancorin (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of otoancorin 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-165164 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

otoancorin (K-14) is recommended for detection of otoancorin 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).

Suitable for use as control antibody for otoancorin siRNA (h): sc-93482, otoancorin siRNA (m): sc-151340, otoancorin shRNA Plasmid (h): sc-93482-SH, otoancorin shRNA Plasmid (m): sc-151340-SH, otoancorin shRNA (h) Lentiviral Particles: sc-93482-V and otoancorin shRNA (m) Lentiviral Particles: sc-151340-V.

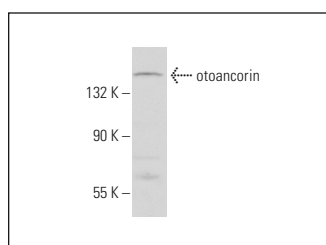
Molecular Weight of otoancorin: 129 kDa.

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



otoancorin (K-14): sc-165164. Western blot analysis of otoancorin expression in HeLa whole cell lysate.

## 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.

## PROTOCOLS

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