SANTA CRUZ BIOTECHNOLOGY, INC.

Otospiralin (FL-89): sc-67315

BACKGROUND

Otospiralin is an 89 amino acid inner ear-specific protein ecoded by the OTOS gene. Otospiralin is synthesized by fibrocytes of spiral limbus and spiral ligament in the cochlea. Fibrocytes are responsible for maintaining inner ear homeostasis and impairment or alteration of these cells may lead to deterioration of auditory function. Degeneration of fibrocytes due to the absence of Otospiralin leads to irreversible deafness in guinea pigs and moderate deafness in mice. Loss of function in hair cells of the inner ear may also be caused by the downregulation of Otospiralin. Otospiralin is conserved from fish to mammals. It shares homology with gag p30 core shell and SARS of type C retroviruses. One isoform is produced due to alternative splicing.

REFERENCES

1. Gratton, M.A., et al. 1996. Characterization and development of an inner ear type I fibrocyte cell culture. Hear. Res. 99: 71-78.
2. Delprat, B., et al. 2002. Downregulation of Otospiralin, a novel inner ear protein, causes hair cell degeneration and deafness. J. Neurosci. 22: 1718-1725.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607877. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Lavigne-Rebillard, M., et al. 2003. Gene structure, chromosomal localization and mutation screening of the human gene for the inner ear protein Otospiralin. Neurogenetics 4: 137-140.
5. Pompeia, C., et al. 2004. Gene expression profile of the mouse organ of Corti at the onset of hearing. Genomics 83: 1000-1011.
6. Caravelli, A., et al. 2004. Downregulation of Otospiralin mRNA in response to acoustic stress in guinea pig. Hear. Res. 198: 36-40.
7. Delprat, B., et al. 2005. Deafness and cochlear fibrocyte alterations in mice deficient for the inner ear protein Otospiralin. Mol. Cell. Biol. 25: 847-853.

CHROMOSOMAL LOCATION

Genetic locus: OTOS (human) mapping to 2q37.3; Otos (mouse) mapping to 1 D.

SOURCE

Otospiralin (FL-89) is a rabbit polyclonal antibody raised against amino acids 1-89 representing full length Otospiralin 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.

STORAGE

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

APPLICATIONS

Otospiralin (FL-89) is recommended for detection of Otospiralin of human and, to a lesser extent, mouse and rat 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).

Otospiralin (FL-89) is also recommended for detection of Otospiralin in additional species, including canine and bovine.

Suitable for use as control antibody for Otospiralin siRNA (h): sc-62725, Otospiralin siRNA (m): sc-62726, Otospiralin shRNA Plasmid (h): sc-62725-SH, Otospiralin shRNA Plasmid (m): sc-62726-SH, Otospiralin shRNA (h) Lentiviral Particles: sc-62725-V and Otospiralin shRNA (m) Lentiviral Particles: sc-62726-V.

Molecular Weight of Otospiralin: 6 kDa.

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.

RESEARCH USE

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

PROTOCOLS

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