SANTA CRUZ BIOTECHNOLOGY, INC.

Otospiralin (A-12): sc-393239

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. 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.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607877. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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. Down-regulation of Otospiralin mRNA in response to acoustic stress in guinea pig. Hear. Res. 198: 36-40.

CHROMOSOMAL LOCATION

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

SOURCE

Otospiralin (A-12) is a mouse monoclonal antibody raised against amino acids 1-89 representing full length Otospiralin of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Otospiralin (A-12) is available conjugated to agarose (sc-393239 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393239 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393239 PE), fluorescein (sc-393239 FITC), Alexa Fluor® 488 (sc-393239 AF488), Alexa Fluor® 546 (sc-393239 AF546), Alexa Fluor® 594 (sc-393239 AF594) or Alexa Fluor® 647 (sc-393239 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393239 AF680) or Alexa Fluor® 790 (sc-393239 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Otospiralin (A-12) is recommended for detection of Otospiralin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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.

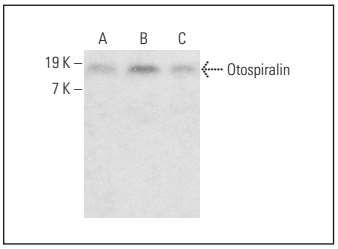
Molecular Weight of Otospiralin: 6 kDa.

Positive Controls: mouse inner ear extract: sc-395050, NCI-H292 whole cell lysate: sc-364179 or human cerebral cortex extract: sc-516707.

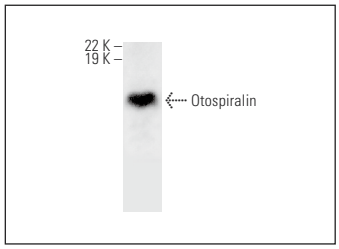
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Otospiralin (A-12): sc-393239. Western blot analysis of Otospiralin expression in human cerebral cortex (**A**) and human brain (**B**) tissue extracts and NCI-H292 whole cell lysate (**C**).



Otospiralin (A-12): sc-393239. Western blot analysis of Otospiralin expression in mouse inner ear tissue extract.

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.