SANTA CRUZ BIOTECHNOLOGY, INC.

Otoferlin (C-15): sc-50159

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Otoferlin is a single-pass type II membrane protein composed of 1,230 amino acid residues. Otoferlin exists in four isoforms; isoform 1 is the full-length Otoferlin protein, whereas isoforms 2-4 are shorter versions of the protein. Expression of isoforms 1 and 3 is demonstrated in adult brain, while isoform 2 is expressed in the fetus, adult brain, heart, placenta, skeletal muscle and kidney tissues. Otoferlin has three C2 domains and a single carboxy-terminal transmembrane domain. The Otoferlin gene, OTOF, and its surrounding genes map to 2p23.3, and the 5' region of OTOF is centromeric. Mutations in the OTOF gene are implicated in deafness. Otoferlin is homologous to the *C. elegans* spermatogenesis factor FER-1 and to human dysferlin, implicating the involvement of Otoferlin in the Ca^{2+}-triggered synaptic vesicle-plasma membrane fusion.

REFERENCES

1. Starr, A., et al. 1998. Transient deafness due to temperature-sensitive auditory neuropathy. Ear Hear. 19: 169-179.
2. Yasunaga, S., et al. 1999. A mutation in OTOF, encoding Otoferlin, a FER-1-like protein, causes DFNB9, a nonsyndromic form of deafness. Nat. Genet. 21: 363-369.
3. Adato, A., et al. 2000. Deafness heterogeneity in a Druze isolate from the Middle East: novel OTOF and PDS mutations, low prevalence of GJB2 35delG mutation and indication for a new DFNB locus. Eur. J. Hum. Genet. 8: 437-442.
4. Migliosi, V., et al. 2002. Q829X, a novel mutation in the gene encoding Otoferlin (OTOF), is frequently found in Spanish patients with prelingual non-syndromic hearing loss. J. Med. Genet. 39: 502-506.
5. Mirghomizadeh, F., et al. 2002. Substitutions in the conserved C2C domain of OTOF of nonsyndromic autosomal recessive deafness. Neurobiol. Dis. 10: 157-164.

CHROMOSOMAL LOCATION

Genetic locus: OTOF (human) mapping to 2p23.3; Otof (mouse) mapping to 5 B1.

SOURCE

Otoferlin (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Otoferlin 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-50159 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

Otoferlin (C-15) is recommended for detection of Otoferlin 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).

Otoferlin (C-15) is also recommended for detection of Otoferlin in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Otoferlin siRNA (h): sc-61269, Otoferlin siRNA (m): sc-61270, Otoferlin shRNA Plasmid (h): sc-61269-SH, Otoferlin shRNA Plasmid (m): sc-61270-SH, Otoferlin shRNA (h) Lentiviral Particles: sc-61269-V and Otoferlin shRNA (m) Lentiviral Particles: sc-61270-V.

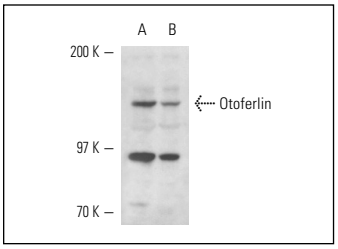
Molecular Weight of Otoferlin: 140.5 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or DU 145 cell lysate: sc-2268.

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 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™ Mounting Medium: sc-24941.

DATA



Otoferlin (C-15): sc-50159. Western blot analysis of Otoferlin expression in IMR-32 (**A**) and DU 145 (**B**) whole cell lysates.

RESEARCH USE

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