SANTA CRUZ BIOTECHNOLOGY, INC.

TMIE (E-16): sc-100203

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The Power to Question

BACKGROUND

TMIE (transmembrane inner ear expressed protein) is a 156 amino acid single-pass type I membrane protein that is expressed in many tissues. TMIE may be involved in membrane localization and may reside within an internal membrane compartment and function in pathways such as those involved in protein and/or vesicle trafficking. Alternatively, TMIE may be localized in the plasma membrane and serve as a site of interaction for other molecules through its highly charged C-terminal domain. Defects in TMIE are the cause of deafness autosomal recessive type 6 (DFNB6), 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. The gene that encodes TMIE consists of approximately 9,591 bases and maps to human chromosome 3p21.

REFERENCES

1. Fukushima, K., et al. 1995. An autosomal recessive nonsyndromic form of sensorineural hearing loss maps to 3p-DFNB6. Genome Res. 5: 305-308.
2. Naz, S., et al. 2002. Mutations in a novel gene, TMIE, are associated with hearing loss linked to the DFNB6 locus. Am. J. Hum. Genet. 71: 632-636.
3. Mitchem, K.L., et al. 2002. Mutation of the novel gene Tmie results in sensory cell defects in the inner ear of spinner, a mouse model of human hearing loss DFNB6. Hum. Mol. Genet. 11: 1887-1898.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607237. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Santos, R.L., et al. 2006. Novel sequence variants in the TMIE gene in families with autosomal recessive nonsyndromic hearing impairment. J. Mol. Med. 84: 226-231.
6. Sirmaci, A., et al. 2009. A founder TMIE mutation is a frequent cause of hearing loss in southeastern Anatolia. Clin. Genet. 75: 562-567.
7. Yang, J.J., et al. 2010. Identification of novel variants in the TMIE gene of patients with nonsyndromic hearing loss. Int. J. Pediatr. Otorhinolaryngol. 74: 489-493.

CHROMOSOMAL LOCATION

Genetic locus: TMIE (human) mapping to 3p21; Tmie (mouse) mapping to 9 F3.

SOURCE

TMIE (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of TMIE 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-100203 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TMIE (E-16) is recommended for detection of TMIE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 TMIE siRNA (h): sc-78335, TMIE siRNA (m): sc-154517, TMIE shRNA Plasmid (h): sc-78335-SH, TMIE shRNA Plasmid (m): sc-154517-SH, TMIE shRNA (h) Lentiviral Particles: sc-78335-V and TMIE shRNA (m) Lentiviral Particles: sc-154517-V.

Molecular Weight of TMIE: 17 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.