

TMC7 (E-12): sc-136928

BACKGROUND

TMC7 (transmembrane channel-like protein 7) is a 723 amino acid protein that is a member of the TMC protein family. All TMC genes encode transmembrane proteins with intracellular amino- and carboxy-termini and at least eight membrane spanning domains. Therefore, TMC7 is a multi-pass membrane protein that may regulate or function as an ion channel or transporter. The gene encoding TMC7 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

- Gilbert, F. 1999. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 16. Genet. Test.* 3: 243-254.
- Keresztes, G., et al. 2003. TMC and EVER genes belong to a larger novel family, the TMC gene family encoding transmembrane proteins. *BMC Genomics* 4: 24.
- Kurima, K., et al. 2003. Characterization of the transmembrane channel-like (TMC) gene family: functional clues from hearing loss and epidermodysplasia verruciformis. *Genomics* 82: 300-308.
- Martin, J., et al. 2004. The sequence and analysis of duplication-rich human chromosome 16. *Nature* 432: 988-994.
- Mutai, H., et al. 2005. Identification of chicken transmembrane channel-like (TMC) genes: expression analysis in the cochlea. *Neuroscience* 132: 1115-1122.
- Tlili, A., et al. 2008. TMC1 but not TMC2 is responsible for autosomal recessive nonsyndromic hearing impairment in Tunisian families. *Audiol. Neurotol.* 13: 213-218.
- Hahn, Y., et al. 2009. Anoctamin and transmembrane channel-like proteins are evolutionarily related. *Int. J. Mol. Med.* 24: 51-55.

CHROMOSOMAL LOCATION

Genetic locus: TMC7 (human) mapping to 16p12.3; Tmc7 (mouse) mapping to 7 F2.

SOURCE

TMC7 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of TMC7 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-136928 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TMC7 (E-12) is recommended for detection of TMC7 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); non cross-reactive with other TMC family members.

Suitable for use as control antibody for TMC7 siRNA (h): sc-93443, TMC7 siRNA (m): sc-154319, TMC7 shRNA Plasmid (h): sc-93443-SH, TMC7 shRNA Plasmid (m): sc-154319-SH, TMC7 shRNA (h) Lentiviral Particles: sc-93443-V and TMC7 shRNA (m) Lentiviral Particles: sc-154319-V.

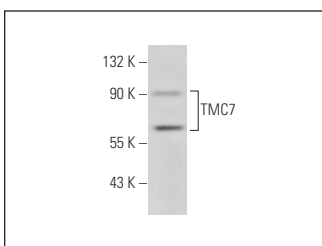
Molecular Weight of TMC7: 84 kDa.

Positive Controls: mouse liver extract: sc-2256, Hep G2 cell lysate: sc-2227 or SK-BR-3 cell lysate: sc-2218.

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



TMC7 (E-12): sc-136928. Western blot analysis of TMC7 expression in mouse liver 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.

PROTOCOLS

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