

TMEM1 (S-19): sc-79159

BACKGROUND

TMEM1 (transmembrane protein 1), also known as EHOC1 (epilepsy holoprosencephaly candidate 1 protein) or GT334, is a widely expressed 1,259 amino acid protein that may function in vesicular transport. Despite its name, TMEM1 does not contain transmembrane domains. It is the human ortholog of the yeast Trs130 protein and its structure and function appears to be conserved. Localizing to the *cis* Golgi apparatus, TMEM1 is believed to be involved in transport from the endoplasmic reticulum (ER) to the Golgi functioning as a component of the multisubunit transport protein particle (TRAPP) complex. Mutations in the gene encoding TMEM1 may be involved in autoimmune polyglandular disease type 1 or Unverricht-Lundborg disease, an autosomal recessive type of progressive myoclonic epilepsy.

REFERENCES

1. Yamakawa, K., Mitchell, S., Hubert, R., Chen, X.N., Colbern, S., Huo, Y.K., Gadomski, C., Kim, U.J. and Korenberg, J.R. 1995. Isolation and characterization of a candidate gene for progressive myoclonus epilepsy on 21q22.3. *Hum. Mol. Genet.* 4: 709-716.
2. Lalioti, M.D., Chen, H., Rossier, C., Shafaatian, R., Reid, J.D. and Antonarakis, S.E. 1996. Cloning the cDNA of human PWP which encodes a protein with WD repeats and maps to 21q22.3. *Genomics* 35: 321-327.
3. Nagamine, K., Kudoh, J., Minoshima, S., Kawasaki, K., Asakawa, S., Ito, F. and Shimizu, N. 1997. Genomic organization and complete nucleotide sequence of the human PWP2 gene on chromosome 21. *Genomics* 42: 528-531.
4. Kudoh, J., Nagamine, K., Asakawa, S., Abe, I., Kawasaki, K., Maeda, H., Tsujimoto, S., Minoshima, S., Ito, F. and Shimizu, N. 1997. Localization of 16 exons to a 450-kb region involved in the autoimmune polyglandular disease type I (APECED) on human chromosome 21q22.3. *DNA Res.* 4: 45-52.
5. Nagamine, K., Kudoh, J., Kawasaki, K., Minoshima, S., Asakawa, S., Ito, F. and Shimizu, N. 1997. Genomic organization and complete nucleotide sequence of the TMEM1 gene on human chromosome 21q22.3. *Biochem. Biophys. Res. Commun.* 235: 185-190.
6. Lafrenière, R.G., Kibar, Z., Rochefort, D.L., Han, F.Y., Fon, E.A., Dube, M.P., Kang, X., Baird, S., Korneluk, R.G., Rommens, J.M. and Rouleau, G.A. 1997. Genomic structure of the human GT334 (EHOC-1) gene mapping to 21q22.3. *Gene* 198: 313-321.
7. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602103. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Deutsch, S., Lyle, R., Dermitzakis, E.T., Attar, H., Subrahmanyam, L., Gehrig, C., Parand, L., Gagnebin, M., Rougemont, J., Jongeneel, C.V. and Antonarakis, S.E. 2005. Gene expression variation and expression quantitative trait mapping of human chromosome genes. *Hum. Mol. Genet.* 14: 3741-3749.
9. Cox, R., Chen, S.H., Yoo, E. and Segev, N. 2007. Conservation of the TRAPP-II-specific subunits of a Ypt/Rab exchanger complex. *BMC Evol. Biol.* 7: 12.

CHROMOSOMAL LOCATION

Genetic locus: TMEM1 (human) mapping to 21q22.3; Tmem1 (mouse) mapping to 10 C1.

SOURCE

TMEM1 (S-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of TMEM1 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-79159 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TMEM1 (S-19) is recommended for detection of TMEM1 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).

TRAPPC10 (S-19) is also recommended for detection of TRAPPC10 in additional species, including bovine.

Suitable for use as control antibody for TRAPPC10 siRNA (h): sc-76682, TRAPPC10 siRNA (m): sc-76683, TRAPPC10 shRNA Plasmid (h): sc-76682-SH, TRAPPC10 shRNA Plasmid (m): sc-76683-SH, TRAPPC10 shRNA (h) Lentiviral Particles: sc-76682-V and TRAPPC10 shRNA (m) Lentiviral Particles: sc-76683-V.

Molecular Weight of TMEM1: 142 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

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.