SANTA CRUZ BIOTECHNOLOGY, INC.

TMED2 (A-8): sc-376033



BACKGROUND

TMED2 (transmembrane emp24 domain trafficking protein 2), also known as P24A or RNP24, is a 201 amino acid protein that is a member of the EMP24/ GP25L family. Like most members of this family, TMED2 is a single-pass type I membrane protein containing one GOLD domain. The GOLD (Golgi dynamics) domain is a region of about 90 to 150 amino acids that mediates protein-protein interactions. The GOLD domain interacts with lipid, sterol or fatty acid-domains as well as with RUN domains, which interact with cytoskeletal filaments of membrane proteins. TMED2 is thought to inhibit GTPase-activating activity of ARFGAP1 and may have a role in the budding of coatomer-coated and other species of coated vesicles. As part of a complex composed of SURF-4 and TMP21, TMED2 binds to cargo molecules to collect them into budding vesicles.

REFERENCES

- 1. Blum, R., et al. 1996. Tmp21 and p24A, two type I proteins enriched in pancreatic microsomal membranes, are members of a protein family involved in vesicular trafficking. J. Biol. Chem. 271: 17183-17189.
- Dominguez, M., et al. 1998. gp25L/emp24/p24 protein family members of the *cis*-Golgi network bind both COP I and II coatomer. J. Cell Biol. 140: 751-765.
- 3. Blum, R., et al. 1999. Intracellular localization and *in vivo* trafficking of p24A and p23. J. Cell Sci. 112: 537-548.
- Sugasawa, T., et al. 2001. The iodocyanopindolol and SM-11044 binding protein belongs to the TM9SF multispanning membrane protein superfamily. Gene 273: 227-237.
- Barr, F.A., et al. 2001. Golgi matrix proteins interact with p24 cargo receptors and aid their efficient retention in the Golgi apparatus. J. Cell Biol. 155: 885-891.
- Anantharaman, V., et al. 2002. The GOLD domain, a novel protein module involved in Golgi function and secretion. Genome Biol. 3: research0023.

CHROMOSOMAL LOCATION

Genetic locus: TMED2 (human) mapping to 12q24.31; Tmed2 (mouse) mapping to 5 F.

SOURCE

TMED2 (A-8) is a mouse monoclonal antibody raised against amino acids 94-201 mapping at the C-terminus of TMED2 of human origin.

PRODUCT

Each vial contains 200 μg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

TMED2 (A-8) is recommended for detection of TMED2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TMED2 (A-8) is also recommended for detection of TMED2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TMED2 siRNA (h): sc-95717, TMED2 siRNA (m): sc-154332, TMED2 shRNA Plasmid (h): sc-95717-SH, TMED2 shRNA Plasmid (m): sc-154332-SH, TMED2 shRNA (h) Lentiviral Particles: sc-95717-V and TMED2 shRNA (m) Lentiviral Particles: sc-154332-V.

Molecular Weight (predicted) of TMED2: 23 kDa.

Molecular Weight (observed) of TMED2: 21 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Hep G2 cell lysate: sc-2227 or NAMALWA cell lysate: sc-2234.

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA





TMED2 (A-8): sc-376033. Western blot analysis of TMED2 expression in Hep G2 (A), NIH/3T3 (B), MDA-MB-231 (C), 3T3-L1 (D), NAMALWA (E) and NCI-H460 (F) whole cell lysates.

TMED2 (A-8): sc-376033. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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