SANTA CRUZ BIOTECHNOLOGY, INC.

POMT1 (G-10): sc-390451

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The Power to Question

BACKGROUND

O-mannosylation is an essential protein modification in eukaryotes that is initiated by an evolutionarily conserved family of protein O-mannosyltransferases. The POMT1 (protein O-mannosyltransferase 1) protein consists of 725 amino acids. POMT1 contains 7 to 12 presumed transmembrane regions and a C-terminal ER membrane retention signal; RT-PCR reveals several mRNA splice variants. RNA dot blot analysis indicates ubiquitous expression of POMT1, with maximum levels in testis and high levels in fetal brain and pituitary tissues. Walker-Warburg syndrome (WWS), a severe, recessive, congenital muscular dystrophy associated with defects in neuronal migration that produce complex brain and eye abnormalities, is caused by mutations in the POMT1 gene.

REFERENCES

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2. Ichimiya, T., et al. 2004. The twisted abdomen phenotype of *Drosophila* POMT1 and POMT2 mutants coincides with their heterophilic protein O-mannosyltransferase activity. J. Biol. Chem. 279: 42638-42647.
3. Willer, T., et al. 2004. Targeted disruption of the Walker-Warburg syndrome gene POMT1 in mouse results in embryonic lethality. Proc. Natl. Acad. Sci. USA 101: 14126-14131.
4. Yamamoto, T., et al. 2004. Expression and localization of fukutin, POMGnT1, and POMT1 in the central nervous system: consideration for functions of fukutin. Med. Electron Microsc. 37: 200-207.
5. Balci, B., et al. 2005. An autosomal recessive limb girdle muscular dystrophy (LGMD2) with mild mental retardation is allelic to Walker-Warburg syndrome (WWS) caused by a mutation in the POMT1 gene. Neuromuscul. Disord. 15: 271-275.
6. Currier, S.C., et al. 2005. Mutations in POMT1 are found in a minority of patients with Walker-Warburg syndrome. Am. J. Med. Genet. A 133A: 53-57.
7. D'Amico, A., et al. 2006. Expanding the clinical spectrum of POMT1 phenotype. Neurology 66: 1564-1567.
8. Manya, H., et al. 2006. Molecular cloning and characterization of rat POMT1 and POMT2. Glycobiology 16: 863-873.

CHROMOSOMAL LOCATION

Genetic locus: POMT1 (human) mapping to 9q34.13; Pomt1 (mouse) mapping to 2 B.

SOURCE

POMT1 (G-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 409-426 within an internal region of POMT1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390451 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

POMT1 (G-10) is recommended for detection of POMT1 isoforms 1, 2 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for POMT1 siRNA (h): sc-61379, POMT1 siRNA (m): sc-61380, POMT1 shRNA Plasmid (h): sc-61379-SH, POMT1 shRNA Plasmid (m): sc-61380-SH, POMT1 shRNA (h) Lentiviral Particles: sc-61379-V and POMT1 shRNA (m) Lentiviral Particles: sc-61380-V.

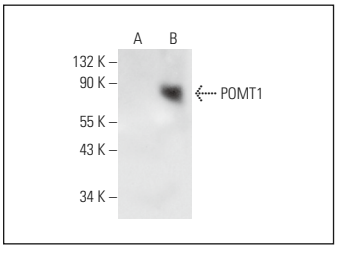
Molecular Weight of POMT1: 75 kDa.

Positive Controls: POMT1 (h): 293T Lysate: sc-117092.

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.

DATA



POMT1 (G-10): sc-390451. Western blot analysis of POMT1 expression in non-transfected: sc-117752 (**A**) and human POMT1 transfected: sc-117092 (**B**) 293T whole cell lysates.

STORAGE

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