

MPDU1 (I-25): sc-130176

BACKGROUND

MPDU1 (mannose-P-dolichol utilization defect 1 protein), also designated suppressor of Lec15 and Lec35 glycosylation mutation or SL15, mediates the transfer of glucose and mannose residues from Glc-P-Dol and Man-P-Dol to oligosaccharides. Defects in the MPDU1 gene result in a Type I congenital disorder of glycosylation CDG-I_f. Patients with CDG-I_f make incomplete lipid-linked oligosaccharides (LLO) and present with severe psychomotor retardation, seizures, failure to thrive, dry skin and scaling with erythroderma and impaired vision. Overexpression of GlcNAc-1-P transferase has been shown to impair the function of MPDU1, suggesting a form of pseudo-CDG-I_f.

REFERENCES

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3. Schenk, B., et al. 2001. MPDU1 mutations underlie a novel human congenital disorder of glycosylation, designated type I_f. *J. Clin. Invest.* 108: 1687-1695.
4. Dupre, T., et al. 2004. Inherited disorders of protein glycosylation. *Med. Sci.* 20: 331-338.
5. Eklund, E.A., et al. 2005. Hydrophobic Man-1-P derivatives correct abnormal glycosylation in Type I congenital disorder of glycosylation fibroblasts. *Glycobiology* 15: 1084-1093.
6. Freeze, H.H. 2007. Congenital disorders of glycosylation: CDG-I, CDG-II, and beyond. *Curr. Mol. Med.* 7: 389-396.
7. Gao, N., et al. 2008. Unexpected basis for impaired Glc3Man9GlcNAc2-P-P-dolichol biosynthesis by elevated expression of GlcNAc-1-P transferase. *Glycobiology* 18: 125-134.

CHROMOSOMAL LOCATION

Genetic locus: MPDU1 (human) mapping to 17p13.1; Mpdu1 (mouse) mapping to 11 B3.

SOURCE

MPDU1 (I-25) is a purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MPDU1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

MPDU1 (I-25) is recommended for detection of MPDU1 of mouse 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), 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).

Suitable for use as control antibody for MPDU1 siRNA (h): sc-93566, MPDU1 siRNA (m): sc-149527, MPDU1 shRNA Plasmid (h): sc-93566-SH, MPDU1 shRNA Plasmid (m): sc-149527-SH, MPDU1 shRNA (h) Lentiviral Particles: sc-93566-V and MPDU1 shRNA (m) Lentiviral Particles: sc-149527-V.

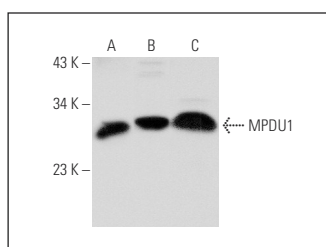
Molecular Weight of MPDU1: 27 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176, HeLa whole cell lysate: sc-2200 or mouse brain extract: sc-2253.

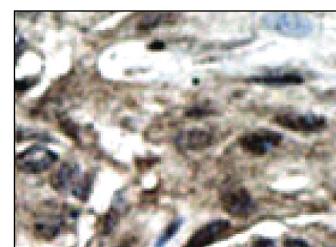
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



MPDU1 (I-25): sc-130176. Western blot analysis of MPDU1 expression in HeLa (A) and U-251-MG (B) whole cell lysates and mouse brain tissue extract (C).



MPDU1 (I-25): sc-130176. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

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.