SANTA CRUZ BIOTECHNOLOGY, INC.

MPDU1 (C-14): sc-168623

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-If. Patients with CDG-If 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-If.

REFERENCES

1. Ware, F.E. and Lehrman, M.A. 1996. Expression cloning of a novel suppressor of the Lec15 and Lec35 glycosylation mutations of Chinese hamster ovary cells. J. Biol. Chem. 271: 13935-13938.
2. Kranz, C., et al. 2001. A mutation in the human MPDU1 gene causes congenital disorder of glycosylation type If (CDG-If). J. Clin. Invest. 108: 1613-1619.
3. Schenk, B., et al. 2001. MPDU1 mutations underlie a novel human congenital disorder of glycosylation, designated type If. J. Clin. Invest. 108: 1687-1695.
4. Dupré, 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.
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CHROMOSOMAL LOCATION

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

SOURCE

MPDU1 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MPDU1 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-168623 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

MPDU1 (C-14) is recommended for detection of MPDU1 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).

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.

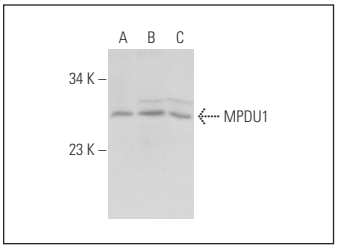
Molecular Weight of MPDU1: 27 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, NIH/3T3 whole cell lysate: sc-2210 or NCI-H929 whole cell lysate: sc-364786.

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



MPDU1 (C-14): sc-168623. Western blot analysis of MPDU1 expression in NIH/3T3 (**A**), U-251-MG (**B**) and NCI-H292 (**C**) 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.

PROTOCOLS

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