SANTA CRUZ BIOTECHNOLOGY, INC.

RFT1 (P-16): sc-103146

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RFT1, also known as CDG1N, FLJ25945 or DKFZp667J092, is a 541 amino acid multi-pass transmembrane protein and flippase enzyme which likely assists in assembly of N-linked oligosaccharides. RFT1 also catalyzes the translocation of Man(5)GlcNAc (2)-PP-Dol through the endoplasmic reticulum membrane from the cytoplasmic side to the lumenal side, which is a necessary step in the N-glycosylation pathway. Defects of RFT1 lead to autosomal recessive type 1N congenital disorders of glycosylation (or CDG1N) whose effects include immunodeficiency, disorders of the nervous system during development, hypotonia, coagulation disorders, psychomotor retardation and dysmorphic features. RFT1 has multiple transmembrane domains and is encoded by a gene which maps to human chromosome 3p21.1.

REFERENCES

1. Stibler, H., Holzbach, U. and Kristiansson, B. 1998. Isoforms and levels of transferrin, antithrombin, α(1)-antitrypsin and thyroxine-binding globulin in 48 patients with carbohydrate-deficient glycoprotein syndrome type I. Scand. J. Clin. Lab. Invest. 58: 55-61.
2. Helenius, J., Ng, D.T., Marolda, C.L., Walter, P., Valvano, M.A. and Aebi, M. 2002. Translocation of lipid-linked oligosaccharides across the ER membrane requires RFT1 protein. Nature 415: 447-450.
3. Leroy, J.G. 2006. Congenital disorders of N-glycosylation including diseases associated with O- as well as N-glycosylation defects. Pediatr. Res. 60: 643-656.
4. Haeuptle, M.A., Pujol, F.M., Neupert, C., Winchester, B., Kastaniotis, A.J., Aebi, M. and Hennet, T. 2008. Human RFT1 deficiency leads to a disorder of N-linked glycosylation. Am. J. Hum. Genet. 82: 600-606.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612015. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: RFT1 (human) mapping to 3p21.1.

SOURCE

RFT1 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RFT1 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-103146 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

RFT1 (P-16) is recommended for detection of RFT1 of 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).

Suitable for use as control antibody for RFT1 siRNA (h): sc-78393, RFT1 shRNA Plasmid (h): sc-78393-SH and RFT1 shRNA (h) Lentiviral Particles: sc-78393-V.

Molecular Weight of RFT1: 60 kDa.

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.

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.