SANTA CRUZ BIOTECHNOLOGY, INC.

GTDC1 (G-13): sc-168049

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glycosyltransferases that mediate the regio- and stereoselective transfer of sugars, such as the fucosyltransferases, determine cell surface-carbohydrate profiles, which is an essential interface for biological recognition processes. GTDC1 (Glycosyltransferase-like domain-containing protein 1), also known as Mat-Xa, is a 458 amino acid protein belonging to the glycosyltransferase 1 family. GTDC1 is ubiquitously expressed, with highest levels found in peripheral blood leukocytes, spleen, lung and testis. There are three isoforms of GTDC1 that are produced as a result of alternative splicing events. The gene encoding GTDC1 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. An extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. Zhao, E., Li, Y., Fu, X., Zhang, J.Y., Zeng, H., Zeng, L., Lin, Y., Chen, J., Yin, G., Qian, J., Ying, K., Xie, Y., Zhao, R.C. and Mao, Y.M. 2004. Cloning and expression of human GTDC1 gene (glycosyltransferase-like domain containing 1) from human fetal library. DNA Cell Biol. 23: 183-187.
2. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610165. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Wennekes, T., van den Berg, R.J., Boot, R.G., van der Marel, G.A., Overkleeft, H.S. and Aerts, J.M. 2009. Glycosphingolipids—nature, function, and pharmacological modulation. Angew. Chem. Int. Ed. Engl. 48: 8848-8869.
4. Lazarus, B.D., Love, D.C. and Hanover, J.A. 2009. O-GlcNAc cycling: implications for neurodegenerative disorders. Int. J. Biochem. Cell Biol. 41: 2134-2146.
5. Kiessling, L.L. and Splain, R.A. 2010. Chemical approaches to glycobiology. Annu. Rev. Biochem. 79: 619-653.
6. Hanover, J.A., Krause, M.W. and Love, D.C. 2010. The hexosamine signaling pathway: O-GlcNAc cycling in feast or famine. Biochim. Biophys. Acta 1800: 80-95.
7. Smigiel, R., Szafranska, A., Czyzewska, M., Rauch, A., Zweier, C.h. and Patkowski, D. 2010. Severe clinical course of Hirschsprung disease in a Mowat-Wilson syndrome patient. J. Appl. Genet. 51: 111-113.

CHROMOSOMAL LOCATION

Genetic locus: GTDC1 (human) mapping to 2q22.3; Gtdc1 (mouse) mapping to 2 B.

SOURCE

GTDC1 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GTDC1 of human origin.

STORAGE

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

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-168049 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GTDC1 (G-13) is recommended for detection of GTDC1 of mouse, rat and 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).

GTDC1 (G-13) is also recommended for detection of GTDC1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for GTDC1 siRNA (h): sc-94743, GTDC1 siRNA (m): sc-145821, GTDC1 shRNA Plasmid (h): sc-94743-SH, GTDC1 shRNA Plasmid (m): sc-145821-SH, GTDC1 shRNA (h) Lentiviral Particles: sc-94743-V and GTDC1 shRNA (m) Lentiviral Particles: sc-145821-V.

Molecular Weight of GTDC1: 53 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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.