β3Gn-T8 (T-16): sc-241762



The Power to Question

BACKGROUND

A family of human β 1,3-galactosyltransferases ($\beta 3 Gn-Ts$) consists of nine members ($\beta 3 Gn-T1$, -T2, -T3, -T4, -T5, -T6, -T7, -T8 and -T9). $\beta 3 Gn-T1$ catalyzes the formation of type 1 oligosaccharides. $\beta 3 GnT-2$ converts lacto-N-triose II into lacto-N-tetraose and lacto-N-neotetraose and can form a hetero-dimer with $\beta 3 Gn-T8$, which, as a complex, exhibits higher enzymatic activity. Unlike the ubiquitously expressed $\beta 3 Gn-T2$, $\beta 3 Gn-T3$ is specifically expressed in colon, jejunum, stomach, esophagus, placenta and trachea, and $\beta 3 Gn-T4$ is mainly expressed in brain. $\beta 3 Gn-T5$ is essential for the biosynthesis of Lewis antigens and may play a role in gastric cancer as a result of its participation in chronic H. pylori infection. $\beta 3 Gn-T6$ may be a useful marker for distinguishing between benign adenomas and premalignant lesions. $\beta 3 Gn-T7$ acts as an anti-migration factor for a lung cancer cell line.

REFERENCES

- 1. Shiraishi, N., Natsume, A., Togayachi, A., Endo, T., Akashima, T., Yamada, Y., Imai, N., Nakagawa, S., Koizumi, S., Sekine, S., Narimatsu, H. and Sasaki, K. 2001. Identification and characterization of three novel β 1,3-Nacetylglucosaminyltransferases structurally related to the β 1,3-galactosyltransferase family. J. Biol. Chem. 276: 3498-3507.
- Seko, A. and Yamashita, K. 2004. β1,3-N-Acetylglucosaminyltransferase-7 (β3Gn-T7) acts efficiently on keratan sulfate-related glycans. FEBS Lett. 556: 216-220.
- Iwai, T., Kudo, T., Kawamoto, R., Kubota, T., Togayachi, A., Hiruma, T., Okada, T., Kawamoto, T., Morozumi, K. and Narimatsu, H. 2005. Core 3 synthase is down-regulated in colon carcinoma and profoundly suppresses the metastatic potential of carcinoma cells. Proc. Natl. Acad. Sci. USA 102: 4572-4577.
- Deo, V.K. and Park, E.Y. 2006. Multiple co-transfection and co-expression of human β-1,3-N-acetylglucosaminyltransferase with human calreticulin chaperone cDNA in a single step in insect cells. Biotechnol. Appl. Biochem. 43: 129-135.
- 5. Seko, A. and Yamashita, K. 2008. Activation of β 1,3-N-acetylglucosaminyl-transferase-2 (β 3Gn-T2) by β 3Gn-T8: Possible involvement of β 3Gn-T8 in increasing poly-N-acetyllactosamine chains in differentiated HL-60 cells. J. Biol. Chem. 283: 33094-33100.
- Marcos, N.T., Magalhães, A., Ferreira, B., Oliveira, M.J., Carvalho, A.S., Mendes, N., Gilmartin, T., Head, S.R., Figueiredo, C., David, L., Santos-Silva, F. and Reis, C.A. 2008. *Helicobacter pylori* induces β3GnT5 in human gastric cell lines, modulating expression of the SabA ligand sialyl-Lewis x. J. Clin. Invest. 118: 2325-2336.

CHROMOSOMAL LOCATION

Genetic locus: B3GNT8 (human) mapping to 19q13.2.

SOURCE

 $\beta 3Gn-T8$ (T-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of $\beta 3Gn-T8$ of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-241762 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

 β 3Gn-T8 (T-16) is recommended for detection of β 3Gn-T8 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).

 β 3Gn-T8 (T-16) is also recommended for detection of β 3Gn-T8 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for $\beta 3Gn-T8$ siRNA (h): sc-97362, $\beta 3Gn-T8$ shRNA Plasmid (h): sc-97362-SH and $\beta 3Gn-T8$ shRNA (h) Lentiviral Particles: sc-97362-V.

Molecular Weight of β3Gn-T8: 43 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) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

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.

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