SANTA CRUZ BIOTECHNOLOGY, INC.

β3Gn-T2 (P-13): sc-160948

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A family of human β1,3-galactosyltransferases (β3Gn-Ts) consists of nine members (β3Gn-T1, -T2, -T3, -T4, -T5, -T6, -T7, -T8 and -T9). β3Gn-T1 catalyzes the formation of type 1 oligosaccharides. β3GnT-2 converts lacto-N-triose II into lacto-N-tetraose and lacto-N-neotetraose and can form a heterodimer with β3Gn-T8, which, as a complex, exhibits higher enzymatic activity. Unlike the ubiquitously expressed β3Gn-T2, β3Gn-T3 is specifically expressed in colon, jejunum, stomach, esophagus, placenta and trachea, while β3Gn-T4 is mainly expressed in brain. β3Gn-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. β3Gn-T6 may be a useful marker for distinguishing between benign adenomas and premalignant lesions. β3Gn-T7 acts as an anti-migration factor for a lung cancer cell line.

REFERENCES

1. Shiraishi, N., et al. 2001. Identification and characterization of three novel β1,3-N-acetylglucosaminyltransferases structurally related to the β1,3-galactosyltransferase family. J. Biol. Chem. 276: 3498-3507.
2. 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.
3. Iwai, T., et al. 2005. Core 3 synthase is downregulated in colon carcinoma and profoundly suppresses the metastatic potential of carcinoma cells. Proc. Natl. Acad. Sci. USA 102: 4572-4577.
4. Deo, V.K. and Park, E.Y. 2006. Multiple cotransfection and coexpression of human β1,3-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 β1,3-N-acetylglucosaminyltransferase-2 (β3Gn-T2) by β3Gn-T8: Possible involvement of β3Gn-T8 in increasing poly-N-acetyllactosamine chains in differentiated HL-60 cells. J. Biol. Chem. 83: 33094-33100
6. Marcos, N.T., et al. 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: B3GNT2 (human) mapping to 2p15; B3gnt2 (mouse) mapping to 11 A3.2.

SOURCE

β3Gn-T2 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of β3Gn-T2 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-160948 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

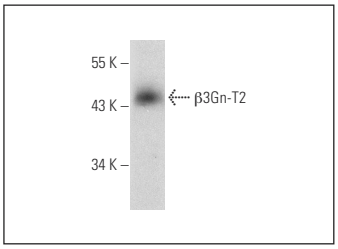
β3Gn-T2 (P-13) is recommended for detection of β3Gn-T2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other β3Gn-T family members.

Suitable for use as control antibody for β3Gn-T2 siRNA (h): sc-94700, β3Gn-T2 siRNA (m): sc-108931, β3Gn-T2 shRNA Plasmid (h): sc-94700-SH, β3Gn-T2 shRNA Plasmid (m): sc-108931-SH, β3Gn-T2 shRNA (h) Lentiviral Particles: sc-94700-V and β3Gn-T2 shRNA (m) Lentiviral Particles: sc-108931-V.

Molecular Weight of β3Gn-T2: 46 kDa.

Positive Controls: rat testis extract: sc-2400.

DATA



β3Gn-T2 (P-13): sc-160948. Western blot analysis of β3Gn-T2 expression in rat testis tissue extract.

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.