



β3Gn-T7 (H-89): sc-134664

BACKGROUND

A family of human β 1,3-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. β3Gn-T2 converts lacto-N-triose II into lacto-N-tetraose and lacto-N-neotetraose and can form a hetero-dimer 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, and 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

- 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-N-acetylglucosaminyltransferases 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.
- 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.* 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.

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.

CHROMOSOMAL LOCATION

Genetic locus: B3GNT7 (human) mapping to 2q37.1; B3gnt7 (mouse) mapping to 1 D.

SOURCE

β3Gn-T7 (H-89) is a rabbit polyclonal antibody raised against amino acids 27-115 mapping near the N-terminus of β3Gn-T7 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.

APPLICATIONS

β3Gn-T7 (H-89) is recommended for detection of β3Gn-T7 of human and, to a lesser extent, mouse and rat 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 β3Gn-T7 siRNA (h): sc-94880, β3Gn-T7 siRNA (m): sc-108936, β3Gn-T7 shRNA Plasmid (h): sc-94880-SH, β3Gn-T7 shRNA Plasmid (m): sc-108936-SH, β3Gn-T7 shRNA (h) Lentiviral Particles: sc-94880-V and β3Gn-T7 shRNA (m) Lentiviral Particles: sc-108936-V.

Molecular Weight of β3Gn-T7: 46 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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