

β3Gn-T7 (A-4): sc-271739

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

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- Seko, A., et al. 2004. β1,3-N-Acetylglucosaminyltransferase-7 (β3Gn-T7) acts efficiently on keratan sulfate-related glycans. *FEBS Lett.* 556: 216-220.
- Iwai, T., et al. 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., et al. 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.
- 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: B3GNT7 (human) mapping to 2q37.1; B3gnt7 (mouse) mapping to 1 D.

SOURCE

β3Gn-T7 (A-4) is a mouse monoclonal antibody raised against amino acids 27-115 mapping near the N-terminus of β3Gn-T7 of human origin.

PRODUCT

Each vial contains 200 μg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β3Gn-T7 (A-4) is available conjugated to agarose (sc-271739 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271739 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271739 PE), fluorescein (sc-271739 FITC), Alexa Fluor® 488 (sc-271739 AF488), Alexa Fluor® 546 (sc-271739 AF546), Alexa Fluor® 594 (sc-271739 AF594) or Alexa Fluor® 647 (sc-271739 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271739 AF680) or Alexa Fluor® 790 (sc-271739 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

β3Gn-T7 (A-4) is recommended for detection of β3Gn-T7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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.

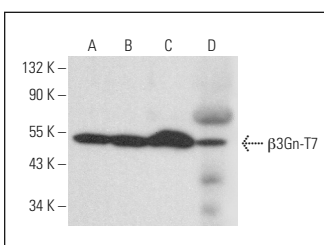
Molecular Weight of β3Gn-T7: 46 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

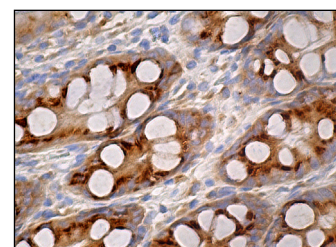
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



β3Gn-T7 (A-4): sc-271739. Western blot analysis of β3Gn-T7 expression in Hep G2 (A), Jurkat (B) and c4 (C) whole cell lysates and human heart tissue extract (D).



β3Gn-T7 (A-4): sc-271739. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

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.

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