SANTA CRUZ BIOTECHNOLOGY, INC.

β3Gn-T7 (A-4): sc-271739



BACKGROUND

A family of human β 1,3-galactosyltransferases (β 3Gn-Ts) consists of nine members (β 3Gn-T1, -T2, -T3, -T4, -T5, -T6, -T7, -T8 and -T9). β 3Gn-T1 catalyzes the formation of type 1 oligosaccharides. β 3GnT-2 converts lacto-N-triose II into lacto-N-tetraose and lacto-N-neotetraose and can form a hetero-dimer with β 3Gn-T8, which, as a complex, exhibits higher enzymatic activity. Unlike the ubiquitously expressed β 3Gn-T2, β 3Gn-T3 is specifically expressed in colon, jejunum, stomach, esophagus, placenta and trachea, and β 3Gn-T4 is mainly expressed in brain. β 3Gn-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. β 3Gn-T6 may be a useful marker for distinguishing between benign adenomas and premalignant lesions. β 3Gn-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 β 1,3-N-acetylglucosaminyltransferases structurally related to the β 1, 3-galactosyltransferase family. J. Biol. Chem. 276: 3498-3507.
- 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.
- 4. 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.

CHROMOSOMAL LOCATION

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

SOURCE

 β 3Gn-T7 (A-4) is a mouse monoclonal antibody raised against amino acids 27-115 mapping near the N-terminus of β 3Gn-T7 of human origin.

PRODUCT

Each vial contains 200 μ g lgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

 β 3Gn-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.

RESEARCH USE

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

APPLICATIONS

 β 3Gn-T7 (A-4) is recommended for detection of β 3Gn-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 β 3Gn-T7 siRNA (h): sc-94880, β 3Gn-T7 siRNA (m): sc-108936, β 3Gn-T7 shRNA Plasmid (h): sc-94880-SH, β 3Gn-T7 shRNA Plasmid (m): sc-108936-SH, β 3Gn-T7 shRNA (h) Lentiviral Particles: sc-94880-V and β 3Gn-T7 shRNA (m) Lentiviral Particles: sc-108936-V.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA





 $\beta 3Gn\math{T7}$ (A-4): sc-271739. Western blot analysis of $\beta 3Gn\math{-T7}$ expression in untreated HCT-116 (**A**), chemically-treated HCT-116 (**B**, **C**, **D**), HeLa (**E**) and K-562 (**F**) whole cell lysates. $\beta\math{-Actin}$ (C4): sc-47778 used as loading control. Detection reagent used: m-lgG1 BP-HRP: sc-525408.

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.

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