SANTA CRUZ BIOTECHNOLOGY, INC.

β-1,4-GalNAc-T2 (G-1): sc-393370

BACKGROUND

β-1,4-N-acetyl-galactosaminyl transferase 2 (β-1,4-GalNAc-T2) is a 566 amino acid protein belonging to the glycosyltransferase 2 family. Localized to the membrane of the Golgi apparatus, β-1,4-GalNAc-T2 participates in the synthesis of the Sd(a) antigen, a carbohydrate determinant expressed on erythrocytes, colonic mucosa and other tissues. During Sd(a) production, β-1,4-GalNAc-T2 transfers a β-1,4-linked GalNAc to the galactose residue of an α-2,3-sialylated chain. β-1,4-GalNAc-T2 also catalyzes the last step in the biosynthesis of the Cad antigen. β-1,4-GalNAc-T2 is widely expressed, with the highest expression in colon and lesser expression in kidney, stomach, ileum and rectum. Mutations in the gene encoding β-1,4-GalNAc-T2 have been linked to Type I von Willebrand disease (VWD), the most common bleeding disorder in humans, characterized by reduced levels of plasma von Willebrand factor. Two named isoforms of β-1,4-GalNAc-T2 exist as a result of alternative splicing events.

REFERENCES

1. Smith, P.L. and Lowe, J.B. 1994. Molecular cloning of a murine N-acetylgalactosamine transferase cDNA that determines expression of the T lymphocyte-specific CT oligosaccharide differentiation antigen. J. Biol. Chem. 269: 15162-15171.
2. Dohi, T., et al. 1996. Detection of N-acetylgalactosaminyltransferase mRNA which determines expression of Sda blood group carbohydrate structure in human gastrointestinal mucosa and cancer. Int. J. Cancer 67: 626-631.

CHROMOSOMAL LOCATION

Genetic locus: B4GALNT2 (human) mapping to 17q21.32; B4galnt2 (mouse) mapping to 11 D.

SOURCE

β-1,4-GalNAc-T2 (G-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 148-193 within an internal region of β-1,4-GalNAc-T2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β-1,4-GalNAc-T2 (G-1) is available conjugated to agarose (sc-393370 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393370 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393370 PE), fluorescein (sc-393370 FITC), Alexa Fluor® 488 (sc-393370 AF488), Alexa Fluor® 546 (sc-393370 AF546), Alexa Fluor® 594 (sc-393370 AF594) or Alexa Fluor® 647 (sc-393370 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393370 AF680) or Alexa Fluor® 790 (sc-393370 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393370 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

β-1,4-GalNAc-T2 (G-1) is recommended for detection of β-1,4-GalNAc-T2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β-1,4-GalNAc-T2 siRNA (h): sc-93560, β-1,4-GalNAc-T2 siRNA (m): sc-108229, β-1,4-GalNAc-T2 shRNA Plasmid (h): sc-93560-SH, β-1,4-GalNAc-T2 shRNA Plasmid (m): sc-108229-SH, β-1,4-GalNAc-T2 shRNA (h) Lentiviral Particles: sc-93560-V and β-1,4-GalNAc-T2 shRNA (m) Lentiviral Particles: sc-108229-V.

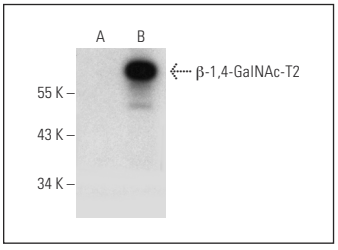
Molecular Weight of β-1,4-GalNAc-T2: 63 kDa.

Positive Controls: β-1,4-GalNAc-T2 (h): 293T Lysate: sc-373232.

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.

DATA



β-1,4-GalNAc-T2 (G-1): sc-393370. Western blot analysis of β-1,4-GalNAc-T2 expression in non-transfected: sc-117752 (**A**), human β-1,4-GalNAc-T2 transfected: sc-373232 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kim, G., et al. 2023. Fluorescent chiral quantum dots to unveil origin-dependent exosome uptake and cargo release. bioRxiv. E-published.

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.