

β -1,4-GalNAc-T2 (Q-12): sc-107334

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

- Smith, P.L., et al. 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.
- 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.
- Mohlke, K.L., et al. 1996. A novel modifier gene for plasma von Willebrand factor level maps to distal mouse chromosome 11. *Proc. Natl. Acad. Sci. USA* 93: 15352-15357.
- Hakomori, S. 1999. Antigen structure and genetic basis of histo-blood groups A, B and O: their changes associated with human cancer. *Biochim. Biophys. Acta* 1473: 247-266.

CHROMOSOMAL LOCATION

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

SOURCE

β -1,4-GalNAc-T2 (Q-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of β -1,4-GalNAc-T2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-107334 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

β -1,4-GalNAc-T2 (Q-12) is recommended for detection of β -1,4-GalNAc-T2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 family members β -1,4-GalNAc-T, β -1,4-GalNAc-T3, or β -1,4-GalNAc-T4.

β -1,4-GalNAc-T2 (Q-12) is also recommended for detection of β -1,4-GalNAc-T2 in additional species, including equine, canine, bovine and porcine.

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.

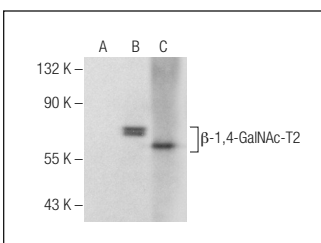
Molecular Weight of β -1,4-GalNAc-T2: 63 kDa.

Positive Controls: β -1,4-GalNAc-T2 (h): 293T Lysate: sc-373232 or human colon tissue extract.

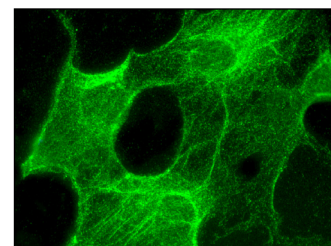
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



β -1,4-GalNAc-T2 (Q-12): sc-107334. Western blot analysis of β -1,4-GalNAc-T2 expression in non-transfected: sc-117752 (A) and human β -1,4-GalNAc-T2 transfected: sc-373232 (B) 293T whole cell lysates and human colon tissue extract (C).



β -1,4-GalNAc-T2 (Q-12): sc-107334. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane localization.

RESEARCH USE

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