

# $\beta$ -1,4-GalNAc-T2 (h): 293T Lysate: sc-373232

## BACKGROUND

$\beta$ -1,4-N-acetyl-galactosaminyl transferase 2 ( $\beta$ -1,4-GalNAc-T2) is a 566 amino acid protein belonging to the glycosyltransferase 2 family. Localized to the membrane of the Golgi apparatus,  $\beta$ -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,  $\beta$ -1,4-GalNAc-T2 transfers a  $\beta$ -1,4-linked GalNAc to the galactose residue of an  $\alpha$ -2,3-sialylated chain.  $\beta$ -1,4-GalNAc-T2 also catalyzes the last step in the biosynthesis of the CAD antigen.  $\beta$ -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  $\beta$ -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  $\beta$ -1,4-GalNAc-T2 exist as a result of alternative splicing events.

## REFERENCES

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4. 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.
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6. Montiel, M.D., et al. 2003. Molecular cloning, gene organization and expression of the human UDP-GalNAc:Neu5Ac $\alpha$ 2-3Gal $\beta$ -R  $\beta$ 1, 4-N-acetylgalactosaminyltransferase responsible for the biosynthesis of the blood group Sda/Cad antigen: evidence for an unusual extended cytoplasmic domain. *Biochem. J.* 373: 369-379.
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8. Sato, T., et al. 2003. Molecular cloning and characterization of a novel human  $\beta$ -1,4-N-acetylgalactosaminyltransferase,  $\beta$ -4GalNAc-T3, responsible for the synthesis of N,N'-diacetyllactosediamine, galNAc  $\beta$ -1-4GlcNAc. *J. Biol. Chem.* 278: 47534-47544.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## CHROMOSOMAL LOCATION

Genetic locus: B4GALNT2 (human) mapping to 17q21.32.

## PRODUCT

$\beta$ -1,4-GalNAc-T2 (h): 293T Lysate represents a lysate of human  $\beta$ -1,4-GalNAc-T2 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

$\beta$ -1,4-GalNAc-T2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive  $\beta$ -1,4-GalNAc-T2 antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

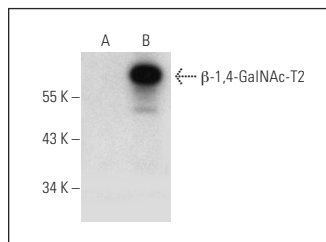
$\beta$ -1,4-GalNAc-T2 (G-1): sc-393370 is recommended as a positive control antibody for Western Blot analysis of enhanced human  $\beta$ -1,4-GalNAc-T2 expression in  $\beta$ -1,4-GalNAc-T2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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.

## DATA



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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.