

GalNAc-T6 (Y5J): sc-100755

BACKGROUND

The UDP-N-acetyl- α -D-galactosamine:polypeptide N-acetylgalactosaminyltransferase (GalNAc-T) family of enzymes are substrate-specific proteins that catalyze the transfer of GalNAc (N-acetylgalactosaminyl) to serine and threonine residues onto various proteins, thereby initiating mucin-type O-linked glycosylation in the Golgi apparatus. GalNAc-T6, also known as GALNT6 (polypeptide N-acetylgalactosaminyltransferase 6), is a 622 amino acid single-pass type II membrane protein that localizes to the Golgi and, like other GalNAc proteins, contains a stem region and a C-terminal ricin/lectin-like domain. Highly expressed in trachea, fibroblasts and placenta with lower expression in brain and pancreas, GalNAc-T6 catalyzes the first reaction in O-linked oligosaccharide biosynthesis, namely the transfer of an N-acetyl-D-galactosamine residue to a protein acceptor. GalNAc-T6 uses calcium and manganese as cofactors and is thought to participate in the synthesis of oncofetal Fibronectin. Additionally, GalNAc-T6 may serve as a potential marker for breast cancer.

REFERENCES

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- Porowska, H., et al. 1999. Activity of partially purified UDP-N-acetyl- α -D-galactosamine:polypeptide N-acetylgalactosaminyltransferase with different peptide acceptors. *Acta Biochim. Pol.* 46: 365-370.
- Schwientek, T., et al. 2002. Functional conservation of subfamilies of putative UDP-N-acetylgalactosamine:polypeptide N-acetylgalactosaminyltransferases in *Drosophila*, *Caenorhabditis elegans*, and mammals. One subfamily composed of I(2)35Aa is essential in *Drosophila*. *J. Biol. Chem.* 277: 22623-22638.
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- Freire, T., et al. 2006. UDP-N-acetyl-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 6 (ppGalNAc-T6) mRNA as a potential new marker for detection of bone marrow-disseminated breast cancer cells. *Int. J. Cancer* 119: 1383-1388.

CHROMOSOMAL LOCATION

Genetic locus: GALNT6 (human) mapping to 12q13.13; Galnt6 (mouse) mapping to 15 F1.

SOURCE

GalNAc-T6 (Y5J) is a mouse monoclonal antibody raised against recombinant GalNAc-T6 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GalNAc-T6 (Y5J) is recommended for detection of GalNAc-T6 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GalNAc-T6 siRNA (h): sc-75100, GalNAc-T6 siRNA (m): sc-75101, GalNAc-T6 shRNA Plasmid (h): sc-75100-SH, GalNAc-T6 shRNA Plasmid (m): sc-75101-SH, GalNAc-T6 shRNA (h) Lentiviral Particles: sc-75100-V and GalNAc-T6 shRNA (m) Lentiviral Particles: sc-75101-V.

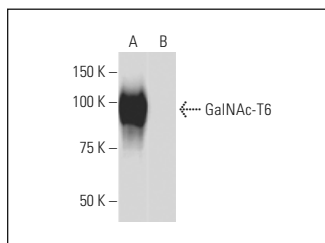
Molecular Weight of GalNAc-T6: 71 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or human GalNAc-T6 transfected 293T whole cell lysate.

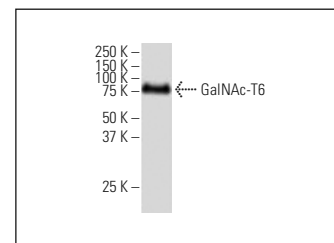
RECOMMENDED SUPPORT REAGENTS

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 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).

DATA



GalNAc-T6 (Y5J): sc-100755 Western blot analysis of GalNAc-T6 expression in human GalNAc-T6 transfected (A) and non-transfected (B) 293T whole cell lysates.



GalNAc-T6 (Y5J): sc-100755. Western blot analysis of GalNAc-T6 expression in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

- Song, J., et al. 2020. GALNT6 promotes invasion and metastasis of human lung adenocarcinoma cells through O-glycosylating chaperone protein GRP78. *Cell Death Dis.* 11: 352.

RESEARCH USE

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