

GalNAc-T6 (N-16): sc-68520

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

- Bennett, E.P., et al. 1999. Cloning and characterization of a close homologue of human UDP-N-acetyl- α -D-galactosamine:Polypeptide N-acetylgalactosaminyltransferase-T3, designated GalNAc-T6. Evidence for genetic but not functional redundancy. *J. Biol. Chem.* 274: 25362-25370.
- 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.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605148. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Argüeso, P., et al. 2003. The cell-layer- and cell-type-specific distribution of GalNAc-transferases in the ocular surface epithelia is altered during keratinization. *Invest. Ophthalmol. Vis. Sci.* 44: 86-92.
- 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.
- Berois, N., et al. 2006. UDP-N-acetyl-D-galactosamine: polypeptide N-acetylgalactosaminyltransferase-6 as a new immunohistochemical breast cancer marker. *J. Histochem. Cytochem.* 54: 317-328.

CHROMOSOMAL LOCATION

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

RESEARCH USE

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

SOURCE

GalNAc-T6 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GalNAc-T6 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-68520 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GalNAc-T6 (N-16) 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), 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).

GalNAc-T6 (N-16) is also recommended for detection of GalNAc-T6 in additional species, including equine, canine, bovine and porcine.

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.

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) 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.

STORAGE

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



Try **GalNAc-T6 (Y5J): sc-100755**, our highly recommended monoclonal alternative to GalNAc-T6 (N-16).