

GalNAc-TL1 (E-12): sc-138290

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-TL1 (UDP-N-acetyl- α -D-galactosamine:polypeptide N-acetylgalactosaminyltransferase-like 1), also known as GALNT16, is a 588 amino acid single-pass type II membrane protein belonging to the glycosyltransferase 2 family, which localizes to the Golgi apparatus. GalNAc-TL1 utilizes manganese and calcium as cofactors, and catalyzes the initial reaction in O-linked oligosaccharide biosynthesis, which involves the transfer of an N-acetyl-D-galactosamine residue to a serine or threonine residue on the protein receptor. Containing one ricin B-type lectin domain, GalNAc-TL1 exists as two alternatively spliced isoforms.

REFERENCES

1. 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.
2. Kumar, S., et al. 2001. Identification and initial characterization of 5000 expressed sequenced tags (ESTs) each from adult human normal and osteoarthritic cartilage cDNA libraries. *Osteoarthr. Cartil.* 9: 641-653.
3. 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.
4. 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.
5. Cheng, L., et al. 2004. Characterization of a novel human UDP-GalNAc transferase, pp-GalNAc-T15. *FEBS Lett.* 566: 17-24.
6. Herr, P., et al. 2008. Regulation of TGF- β signalling by N-acetylgalactosaminyltransferase-like 1. *Development* 135: 1813-1822.

CHROMOSOMAL LOCATION

Genetic locus: GALNTL1 (human) mapping to 14q24.1; Galnt1 (mouse) mapping to 12 C3.

SOURCE

GalNAc-TL1 (E-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of GalNAc-TL1 of human origin.

PRODUCT

Each vial contains 100 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-138290 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GalNAc-TL1 (E-12) is recommended for detection of GalNAc-TL1 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other GalNAc-TL family members.

Suitable for use as control antibody for GalNAc-TL1 siRNA (h): sc-92175, GalNAc-TL1 siRNA (m): sc-145313, GalNAc-TL1 shRNA Plasmid (h): sc-92175-SH, GalNAc-TL1 shRNA Plasmid (m): sc-145313-SH, GalNAc-TL1 shRNA (h) Lentiviral Particles: sc-92175-V and GalNAc-TL1 shRNA (m) Lentiviral Particles: sc-145313-V.

Molecular Weight of GalNAc-TL1: 63 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.