SANTA CRUZ BIOTECHNOLOGY, INC.

GalNAc-T17 (V-16): sc-242874

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs and xenobiotic compounds. These cytosolic enzymes differ in their tissue distribution and substrate specificity, but share similar gene structure (number and length of exons). GalNAc-T17 (UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferase 17), also known as GALNTL6, is a 601 amino acid single-pass type II membrane protein that is a member of the glycosyltransferase 2 family and GalNAc-T subfamily. Localized to the Golgi apparatus and contains a ricin B-type lectin domain, GalNAc-T17 catalyzes the initial reaction in O-linked oligosaccharide biosynthesis, the transfer of an N-acetyl-D-galactosamine residue to a serine or threonine residue on the protein receptor. GalNAc-T17 contains two conserved domains, an N-terminal domain (domain A, also called GT1 motif), which is likely involved in manganese coordination and substrate binding and a C-terminal domain (do-main B, also called Gal/GalNAc-T motif), which is likely involved in catalytic reaction and UDP-Gal binding. GalNAc-T17 exists as two alternatively spliced isoforms and utilizes manganese and calcium as cofactors.

REFERENCES

1. Hayes, B.K., et al. 1993. The biosynthesis of oligosaccharides in intact Golgi preparations from rat liver. Analysis of N-linked and O-linked glycans labeled by UDP-[6-3H]N-acetylgalactosamine. J. Biol. Chem. 268: 16170-16178.
2. 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.
3. 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.
4. Kim, S., et al. 2001. Intact Golgi synthesize complex branched O-linked chains on glycoside primers: evidence for the functional continuity of seven glycosyltransferases and three sugar nucleotide transporters. Glycoconj. J. 18: 623-633.
5. 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 l(2)35Aa is essential in *Drosophila*. J. Biol. Chem. 277: 22623-22638.
6. Kinarsky, L., et al. 2003. Conformational studies on the MUC1 tandem repeat glycopeptides: implication for the enzymatic O-glycosylation of the mucin protein core. Glycobiology 13: 929-939.
7. SWISS-PROT/TrEMBL (Q49A17). World Wide Web URL: http://www.uniprot.org/uniprot/Q49A17

CHROMOSOMAL LOCATION

Genetic locus: GALNTL6 (human) mapping to 4q34.1; Galntl6 (mouse) mapping to 8 B3.1.

SOURCE

GalNAc-T17 (V-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GalNAc-T17 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-242874 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GalNAc-T17 (V-16) is recommended for detection of GalNAc-T17 of human origin and GalNAc-TL6 of mouse and rat 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); non cross-reactive with other GalNAc-T family members.

GalNAc-T17 (V-16) is also recommended for detection of GalNAc-T17 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GalNAc-T17 siRNA (h): sc-89142, GalNAc-TL6 siRNA (m): sc-140056, GalNAc-T17 shRNA Plasmid (h): sc-89142-SH, GalNAc-TL6 shRNA Plasmid (m): sc-140056-SH, GalNAc-T17 shRNA (h) Lentiviral Particles: sc-89142-V and GalNAc-TL6 shRNA (m) Lentiviral Particles: sc-140056-V.

Molecular Weight of GalNAc-T17 isoforms 1/2: 70/68 kDa.

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.

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.