

GalNAc-T7 (N-15): sc-68525

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-acetylgalactosamine) to serine and threonine residues onto various proteins, thereby initiating mucin-type O-linked glycosylation in the Golgi apparatus. In contrast to other proteins of the GalNAc-T family, GalNAc-T7 (N-acetylgalactosaminyltransferase 7) is a 657 amino acid protein that does not transfer GalNAc onto serine or threonine on the protein receptor, but instead requires the prior addition of a GalNAc before adding additional GalNAc molecules. Its N-terminal domain is involved in substrate binding and manganese coordination, while the C-terminal domain is involved in UDP-Gal binding and catalytic reaction. GalNAc-T7 is expressed in kidney, uterus, omentum, CNS, retina and stomach. Single nucleotide polymorphisms within the gene encoding GalNAc-T7 may be linked to susceptibility of schizophrenia.

REFERENCES

- Bennett, E.P., et al. 1999. A novel human UDP-N-acetyl-D-galactosamine: polypeptide N-acetylgalactosaminyltransferase, GalNAc-T7, with specificity for partial GalNAc-glycosylated acceptor substrates. *FEBS Lett.* 460: 226-230.
- Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605005. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- 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 I35Aa is essential in *Drosophila*. *J. Biol. Chem.* 277: 22623-22638.
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- Vawter, M.P., et al. 2006. Genome scans and gene expression microarrays converge to identify gene regulatory loci relevant in schizophrenia. *Hum. Genet.* 119: 558-570.

CHROMOSOMAL LOCATION

Genetic locus: GALNT7 (human) mapping to 4q34.1; Galnt7 (mouse) mapping to 8 B2.

SOURCE

GalNAc-T7 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of GalNAc-T7 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-68525 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GalNAc-T7 (N-15) is recommended for detection of GalNAc-T7 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)], 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-T7 (N-15) is also recommended for detection of GalNAc-T7 in additional species, including canine.

Suitable for use as control antibody for GalNAc-T7 siRNA (h): sc-62364, GalNAc-T7 siRNA (m): sc-62365, GalNAc-T7 shRNA Plasmid (h): sc-62364-SH, GalNAc-T7 shRNA Plasmid (m): sc-62365-SH, GalNAc-T7 shRNA (h) Lentiviral Particles: sc-62364-V and GalNAc-T7 shRNA (m) Lentiviral Particles: sc-62365-V.

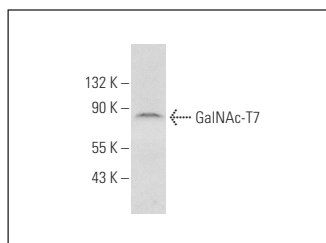
Molecular Weight of GalNAc-T7: 75 kDa.

Positive Controls: human bladder extract: sc-363751.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GalNAc-T7 (N-15): sc-68525. Western blot analysis of GalNAc-T7 expression in human bladder tissue extract.

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.