

GalNAc-T9 (C-14): sc-68531

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 of various proteins, thereby initiating mucin-type O-linked glycosylation in the Golgi apparatus. GalNAc-T9 (Polypeptide N-acetylgalactosaminyltransferase 9), also known as UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase 9, is a 603 amino acid single-pass type II membrane enzyme that catalyzes the O-glycosylation of in the brain. 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-T9 is specifically expressed in brain, where it is localized to frontal lobe, temporal lobe, putamen, spinal cord and cerebellum. It is weakly expressed in cerebral cortex. There are two isoforms of GalNAc-T9 that are produced as a result of alternative splicing events.

REFERENCES

1. Toba, S., et al. 2000. Brain-specific expression of a novel human UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase (GalNAc-T9). *Biochim. Biophys. Acta* 1493: 264-268.
2. Ten Hagen, K.G., et al. 2001. Cloning and characterization of a ninth member of the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase family, ppGalNTase-T9. *J. Biol. Chem.* 276: 17395-17404.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606251: World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Nelson, P.A., et al. 2002. A new UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferase mRNA exhibits predominant expression in the hypothalamus, thalamus and amygdala of mouse forebrain. *Brain Res. Gene Expr. Patterns.* 1: 95-99.
5. Zhang, Y., et al. 2003. Cloning and characterization of a new human UDP-N-acetyl- α -D-galactosamine:polypeptide N-acetylgalactosaminyltransferase, designated pp-GalNAc-T13, that is specifically expressed in neurons and synthesizes GalNAc α -serine/threonine antigen. *J. Biol. Chem.* 278: 573-584.

CHROMOSOMAL LOCATION

Genetic locus: GALNT9 (human) mapping to 12q24.33; Galnt9 (mouse) mapping to 5 F.

SOURCE

GalNAc-T9 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GalNAc-T9 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-68531 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GalNAc-T9 (C-14) is recommended for detection of GalNAc-T9 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-T9 (C-14) is also recommended for detection of GalNAc-T9 in additional species, including canine and avian.

Suitable for use as control antibody for GalNAc-T9 siRNA (h): sc-75104, GalNAc-T9 siRNA (m): sc-75105, GalNAc-T9 shRNA Plasmid (h): sc-75104-SH, GalNAc-T9 shRNA Plasmid (m): sc-75105-SH, GalNAc-T9 shRNA (h) Lentiviral Particles: sc-75104-V and GalNAc-T9 shRNA (m) Lentiviral Particles: sc-75105-V.

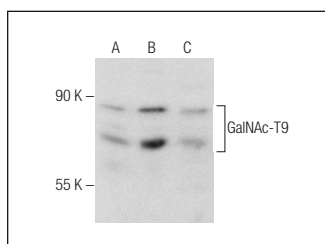
Molecular Weight of GalNAc-T9: 68 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, SK-N-MC cell lysate: sc-2237 or DU 145 cell lysate: sc-2268.

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-T9 (C-14): sc-68531. Western blot analysis of GalNAc-T9 expression in HEK293 (A), SK-N-MC (B) and DU 145 (C) whole cell lysates.

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.