

GalNAc-T13 (T-18): sc-68506

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-T13 (polypeptide N-acetylgalactosaminyltransferase 13), also known as UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase 13, is a 556 amino acid protein that displays much stronger enzymatic activity than GalNAc-1 towards GalNAc transfer to mucin peptides such as Muc5a and Muc7. The 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. With specific expression in the central nervous system, GalNAc-T13 may be responsible for the synthesis of Tn antigen in neuronal cells, which is a universal carcinoma marker on malignant cells.

REFERENCES

- Yonezawa, S., et al. 1997. Expression of mucin antigens in human cancers and its relationship with malignancy potential. *Pathol. Int.* 47: 813-830.
- Irimura, T., et al. 1999. Diverse glycosylation of Muc1 and Muc2: potential significance in tumor immunity. *J. Biochem.* 126: 975-985.
- 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.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608369. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Berois, N., et al. 2006. ppGalNAc-T13: a new molecular marker of bone marrow involvement in neuroblastoma. *Clin. Chem.* 52: 1701-1712.

CHROMOSOMAL LOCATION

Genetic locus: GALNT13 (human) mapping to 2q23.3; Galnt13 (mouse) mapping to 2 C1.1.

SOURCE

GalNAc-T13 (T-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GalNAc-T13 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-68506 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

GalNAc-T13 (T-18) is recommended for detection of GalNAc-T13 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-T13 (T-18) is also recommended for detection of GalNAc-T13 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for GalNAc-T13 siRNA (h): sc-75090, GalNAc-T13 siRNA (m): sc-75091, GalNAc-T13 shRNA Plasmid (h): sc-75090-SH, GalNAc-T13 shRNA Plasmid (m): sc-75091-SH, GalNAc-T13 shRNA (h) Lentiviral Particles: sc-75090-V and GalNAc-T13 shRNA (m) Lentiviral Particles: sc-75091-V.

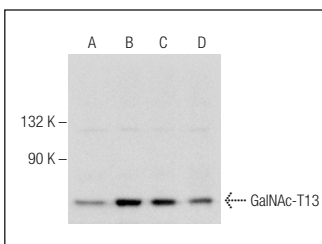
Molecular Weight of GalNAc-T13: 64 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A549 cell lysate: sc-2413 or Caki-1 cell lysate: sc-2224.

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-T13 (T-18): sc-68506. Western blot analysis of GalNAc-T13 expression in HeLa (A), NCI-H460 (B), A549 (C) and Caki-1 (D) 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.

PROTOCOLS

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