

GalNAc-T1 (P-19): sc-68492

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. GalNAc-T1, also known as GALNT1 (polypeptide N-acetylgalactosaminyltransferase 1), is a ubiquitously expressed 559 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and, like other GalNAc-Ts, contains a stem region and a C-terminal ricin/lectin-like domain. GalNAc-T1 catalyzes the first reaction in O-linked oligosaccharide biosynthesis, namely the transfer of an N-acetyl-D-galactosamine residue to a protein acceptor. GalNAc-T1 uses calcium and manganese as cofactors. Due to alternative splicing events, two GalNAc-T1 isoforms are expressed.

REFERENCES

- White, T., Bennett, E.P., Takio, K., Sørensen, T., Bonding, N. and Clausen, H. 1995. Purification and cDNA cloning of a human UDP-N-acetyl- α -D-galactosamine: polypeptide N-acetylgalactosaminyltransferase. *J. Biol. Chem.* 270: 24156-24165.
- Takai, S., Hinoda, Y., Adachi, T., Imai, K. and Oshima, M. 1997. A human UDP-GalNAc: polypeptide, N-acetylgalactosaminyltransferase type 1 gene is located at the chromosomal region 18q12.1. *Hum. Genet.* 99: 293-294.
- Bennett, E.P., Weghuis, D.O., Merckx, G., van Kessel, A.G., Eiberg, H. and Clausen, H. 1998. Genomic organization and chromosomal localization of three members of the UDP-N-acetylgalactosamine: polypeptide N-acetylgalactosaminyltransferase family. *Glycobiology* 8: 547-555.
- Tenno, M., Kézdy, F.J., Elhammer, A.P. and Kurosaka, A. 2002. Function of the lectin domain of polypeptide N-acetylgalactosaminyltransferase 1. *Biochem. Biophys. Res. Commun.* 298: 755-759.

CHROMOSOMAL LOCATION

Genetic locus: GALNT1 (human) mapping to 18q12.2; Galnt1 (mouse) mapping to 18 A2.

SOURCE

GalNAc-T1 (P-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GalNAc-T1 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-68492 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GalNAc-T1 (P-19) is recommended for detection of GalNAc-T1 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-T1 (P-19) is also recommended for detection of GalNAc-T1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GalNAc-T1 siRNA (h): sc-75082, GalNAc-T1 siRNA (m): sc-75083, GalNAc-T1 shRNA Plasmid (h): sc-75082-SH, GalNAc-T1 shRNA Plasmid (m): sc-75083-SH, GalNAc-T1 shRNA (h) Lentiviral Particles: sc-75082-V and GalNAc-T1 shRNA (m) Lentiviral Particles: sc-75083-V.

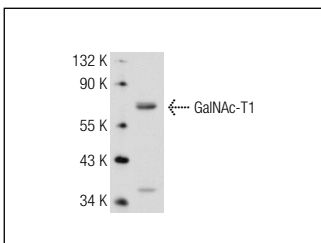
Molecular Weight of GalNAc-T1: 64 kDa.

Positive Controls: JAR cell lysate: sc-2276.

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-T1 (P-19): sc-68492. Western blot analysis of GalNAc-T1 expression in JAR whole cell lysate.

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.