

# GalNAc-T4 (P-12): sc-107553

## BACKGROUND

The UDP-N-acetyl- $\alpha$ -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-T4 (polypeptide N-acetylgalactosaminyltransferase 4), also known as UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferase 4, is a 578 amino acid protein that displays high enzymatic activity toward Muc7, Muc2 and EA2. GalNAc-T4 also glycosylates PSGL-1 on threonine 57. 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. Though ubiquitously expressed, GalNAc-T4 is found at highest levels in mucosal cells.

## REFERENCES

1. Bennett, E.P., et al. 1996. cDNA cloning and expression of a novel human UDP-N-acetyl- $\alpha$ -D-galactosamine. Polypeptide N-acetylgalactosaminyltransferase, GalNAc-t3. *J. Biol. Chem.* 271: 17006-17012.
2. Bennett, E.P., et al. 1998. Cloning of a human UDP-N-acetyl- $\alpha$ -D-Galactosamine:polypeptide N-acetylgalactosaminyltransferase that complements other GalNAc-transferases in complete O-glycosylation of the MUC1 tandem repeat. *J. Biol. Chem.* 273: 30472-30481.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603565. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Hassan, H., et al. 2000. The lectin domain of UDP-N-acetyl-D-galactosamine: polypeptide N-acetylgalactosaminyltransferase-T4 directs its glycopeptide specificities. *J. Biol. Chem.* 275: 38197-38205.
5. Sommer, P., et al. 2006. Identification of Tgf  $\beta$ 1i4 as a downstream target of Foxc1. *Dev. Growth Differ.* 48: 297-308.

## CHROMOSOMAL LOCATION

Genetic locus: GALNT4 (human) mapping to 12q21.33; Galnt4 (mouse) mapping to 10 C3.

## SOURCE

GalNAc-T4 (P-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GalNAc-T4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107553 P, (100  $\mu$ 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-T4 (P-12) is recommended for detection of GalNAc-T4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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-T4 (P-12) is also recommended for detection of GalNAc-T4 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for GalNAc-T4 siRNA (h): sc-96074, GalNAc-T4 siRNA (m): sc-145312, GalNAc-T4 shRNA Plasmid (h): sc-96074-SH, GalNAc-T4 shRNA Plasmid (m): sc-145312-SH, GalNAc-T4 shRNA (h) Lentiviral Particles: sc-96074-V and GalNAc-T4 shRNA (m) Lentiviral Particles: sc-145312-V.

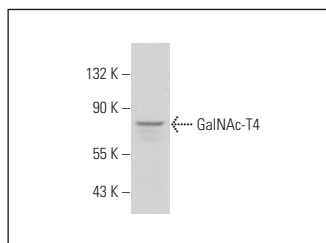
Molecular Weight of GalNAc-T4: 66 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## 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-T4 (P-12): sc-107553. Western blot analysis of GalNAc-T4 expression in Hep G2 whole cell lysate.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.