

GalNAc-T12 (E-14): sc-68502

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-T12 (polypeptide N-acetylgalactosaminyltransferase 12), also known as UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase 12, is a 581 amino acid protein that displays enzymatic activity towards non-glycosylated peptides such as Muc5Ac, Muc1a and EA2 with no detectable activity towards Muc2 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. Since GalNAc-T12 is highly expressed in stomach, pancreas, small intestine and colon, it may play a significant role in the initial step of mucin-type oligosaccharide biosynthesis in digestive organs.

REFERENCES

1. Elhammer, A.P., et al. 1999. The acceptor specificity of UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferases. *Glycoconj. J.* 16: 171-180.
2. Guo, J.M., et al. 2002. Molecular cloning and characterization of a novel member of the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase family, pp-GalNAc-T12. *FEBS Lett.* 524: 211-218.
3. Ten Hagen, K.G., et al. 2003. All in the family: the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferases. *Glycobiology* 13: 1R-16R.
4. Guo, J.M., et al. 2004. Expression of UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase-12 in gastric and colonic cancer cell lines and in human colorectal cancer. *Oncology* 67: 271-276.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610290. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: GALNT12 (human) mapping to 9q22.33; Galnt12 (mouse) mapping to 4 B1.

SOURCE

GalNAc-T12 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GalNAc-T12 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-68502 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-T12 (E-14) is recommended for detection of GalNAc-T12 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-T12 (E-14) is also recommended for detection of GalNAc-T12 in additional species, including equine and bovine.

Suitable for use as control antibody for GalNAc-T12 siRNA (h): sc-75088, GalNAc-T12 siRNA (m): sc-75089, GalNAc-T12 shRNA Plasmid (h): sc-75088-SH, GalNAc-T12 shRNA Plasmid (m): sc-75089-SH, GalNAc-T12 shRNA (h) Lentiviral Particles: sc-75088-V and GalNAc-T12 shRNA (m) Lentiviral Particles: sc-75089-V.

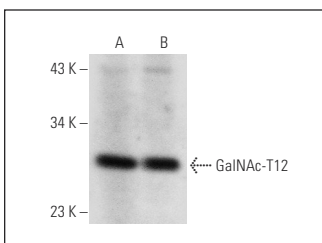
Molecular Weight of GalNAc-T12: 67 kDa.

Positive Controls: rat spleen extract: sc-2397 or rat colon tissue extract.

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-T12 (E-14): sc-68502. Western blot analysis of GalNAc-T12 expression in rat spleen (A) and rat colon (B) tissue extracts.

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.