

GnT-IVB (Y-14): sc-160387

BACKGROUND

GnT-IVB is a 548 amino acid single-pass type II membrane protein that is also known as MGAT4B [mannosyl (α -1,3)-glycoprotein β -1,4-N-acetylglucosaminyltransferase, isozyme B] and is localized to the membrane of the Golgi apparatus. Expressed in a variety of tissues, GnT-IVB functions as a glycosyltransferase that uses divalent metal cations to catalyze the formation of tri- and multiantennary Golgi branching structures, specifically by facilitating the transfer of N-acetylglucosamine (GlcNAc) to the core mannose residues of N-linked glycans. Via its catalytic activity, GnT-IVB plays an essential role in the production of sugar chains and may also be involved in the regulation of serum glycoproteins. Overexpression of GnT-IVB is associated with the progression of pancreatic cancer, suggesting that GnT-IVB may be associated with oncogenic transformation and metastasis. Multiple isoforms of GnT-IVB exist due to alternative splicing events.

REFERENCES

1. Yoshida, A., et al. 1998. A novel second isoenzyme of the human UDP-N-acetylglucosamine: α 1,3-D-mannoside β 1,4-N-acetylglucosaminyltransferase family: cDNA cloning, expression, and chromosomal assignment. *Glycoconj. J.* 15: 1115-1123.
2. Takamatsu, S., et al. 1999. Unusually high expression of N-acetylglucosaminyltransferase-IVA in human choriocarcinoma cell lines: a possible enzymatic basis of the formation of abnormal biantennary sugar chain. *Cancer Res.* 59: 3949-3953.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604561. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Schachter, H. 2002. The role of the GlcNAc β 1,2Man α - moiety in mammalian development. Null mutations of the genes encoding UDP-N-acetylglucosamine: α -3-D-mannoside β -1,2-N-acetylglucosaminyltransferase I and UDP-N-acetylglucosamine: α -D-mannoside β -1,2-N-acetylglucosaminyltransferase I.2 cause embryonic lethality and congenital muscular dystrophy in mice and men, respectively. *Biochim. Biophys. Acta* 1573: 292-300.
5. Ide, Y., et al. 2006. Aberrant expression of N-acetylglucosaminyltransferase-IVA and IVB (GnT-IVA and B) in pancreatic cancer. *Biochem. Biophys. Res. Commun.* 341: 478-482.
6. Oguri, S., et al. 2006. Kinetic properties and substrate specificities of two recombinant human N-acetylglucosaminyltransferase-IV isozymes. *Glycoconj. J.* 23: 473-480.
7. Kudo, T., et al. 2007. N-glycan alterations are associated with drug resistance in human hepatocellular carcinoma. *Mol. Cancer* 6: 32.

CHROMOSOMAL LOCATION

Genetic locus: MGAT4B (human) mapping to 5q35.3; Mgat4b (mouse) mapping to 11 B1.3.

SOURCE

GnT-IVB (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GnT-IVB 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-160387 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GnT-IVB (Y-14) is recommended for detection of GnT-IVB 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); non cross-reactive with GnT-IVA or GnT-IVH.

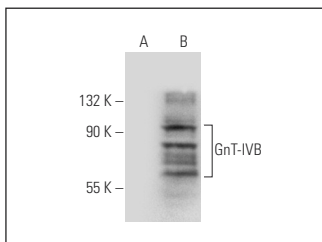
GnT-IVB (Y-14) is also recommended for detection of GnT-IVB in additional species, including equine, canine and porcine.

Suitable for use as control antibody for GnT-IVB siRNA (h): sc-91754, GnT-IVB siRNA (m): sc-145664, GnT-IVB shRNA Plasmid (h): sc-91754-SH, GnT-IVB shRNA Plasmid (m): sc-145664-SH, GnT-IVB shRNA (h) Lentiviral Particles: sc-91754-V and GnT-IVB shRNA (m) Lentiviral Particles: sc-145664-V.

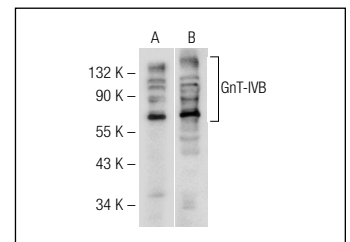
Molecular Weight of GnT-IVB: 63 kDa.

Positive Controls: GnT-IVB (m): 293T Lysate: sc-125400, SK-MEL-28 cell lysate: sc-2236 or MIA PaCa-2 cell lysate: sc-2285.

DATA



GnT-IVB (Y-14): sc-160387. Western blot analysis of GnT-IVB expression in non-transfected: sc-117752 (A) and mouse GnT-IVB transfected: sc-125400 (B) 293T whole cell lysates.



GnT-IVB (Y-14): sc-160387. Western blot analysis of GnT-IVB expression in SK-MEL-28 (A) and MIA PaCa-2 (B) 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.

PROTOCOLS

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