

α 4Gn-T (B-22): sc-130930



The Power to Question

BACKGROUND

Alpha 1,4-N-acetylglucosaminyltransferase (α 4Gn-T) mediates the biosynthesis of mucin type glycoprotein (O-glycan). α 4Gn-T acts as the key enzyme for the formation of the unique glycan GlcNAc α 1-4Gal β 1-R, and most efficiently transfers N-acetylglucosamine (GlcNAc) to core 2 branched O-glycans. α 4Gn-T is a single-pass type II membrane protein associated with the Golgi apparatus and contains the conserved DXD motif involved in catalytic activity. It is expressed in stomach and pancreas, as well as in gastric cancer cells. α 4Gn-T is not expressed in peripheral blood cells, making it a useful biomarker for pancreatic cancer. α 4Gn-T and Mucin 6 expression is upregulated in the gastric mucosa of *H. pylori* infected patients, which suggest the involvement of α 4Gn-T in defense against *H. pylori* infection.

REFERENCES

1. Nakayama, J., et al. 1999. Expression cloning of a human α 1, 4-N-acetylglucosaminyltransferase that forms GlcNAc α 1 \rightarrow 4Gal β \rightarrow R, a glycan specifically expressed in the gastric gland mucous cell-type mucin. Proc. Natl. Acad. Sci. USA 96: 8991-8996.
2. Zhang, M.X., et al. 2001. Immunohistochemical demonstration of α 1,4-N-acetylglucosaminyltransferase that forms GlcNAc α 1, 4Gal β residues in human gastrointestinal mucosa. J. Histochem. Cytochem. 49: 587-596.
3. Nakayama, J., et al. 2002. Glycosyltransferase genes as tumor marker. Rinsho Byori Suppl. 123: 142-148.
4. Matsuzwa, M., et al. 2003. *Helicobacter pylori* infection upregulates gland mucous cell-type mucins in gastric pyloric mucosa. Helicobacter 8: 594-600.
5. Nakajima, K., et al. 2003. Expression of gastric gland mucous cell-type mucin in normal and neoplastic human tissues. J. Histochem. Cytochem. 51: 1689-1698.
6. Shimizu, F., et al. 2003. Useful-ness of the real-time reverse transcription-polymerase chain reaction assay targeted to α 1,4-N-acetylglucosaminyltransferase for the detection of gastric cancer. Lab. Invest. 83: 187-197.
7. Ishizone, S., et al. 2006. Clinical utility of quantitative RT-PCR targeted to α 1,4-N-acetylglucosaminyltransferase mRNA for detection of pancreatic cancer. Cancer Sci. 97: 119-126.

CHROMOSOMAL LOCATION

Genetic locus: A4GNT (human) mapping to 3q22.3.

SOURCE

α 4Gn-T (B-22) is an affinity purified rabbit polyclonal antibody raised against synthetic α 4Gn-T peptide of human origin.

PRODUCT

Each vial contains 50 μ g IgG in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

α 4Gn-T (B-22) is recommended for detection of α 4Gn-T of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for α 4Gn-T siRNA (h): sc-78391, α 4Gn-T shRNA Plasmid (h): sc-78391-SH and α 4Gn-T shRNA (h) Lentiviral Particles: sc-78391-V.

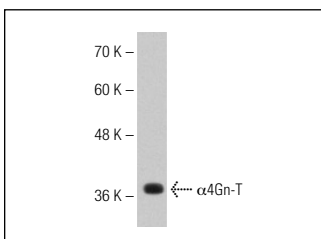
Molecular Weight of α 4Gn-T: 39 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or HEK293 whole cell lysate: sc-45136.

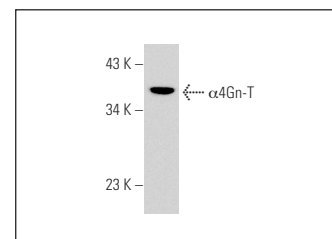
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz MarkerTM compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz MarkerTM 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).

DATA



α 4Gn-T (B-22): sc-130930. Western blot analysis of α 4Gn-T expression in Hep G2 whole cell lysate.



α 4Gn-T (B-22): sc-130930. Western blot analysis of α 4Gn-T expression in HEK293 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.