

GnT-I (K-16): sc-27271

BACKGROUND

GnT-I (α -1,3-mannosyl-glycoprotein 2- β -N acetylglucosaminyltransferase, GlcNAc-T I, MGAT1) catalyzes the first step in the conversion of oligomannose-type N-glycans to N-acetyl-lactosamine- and hybrid-type N-glycans. GnT-I is a 445 amino acid type II membrane protein that localizes to the Golgi and is essential for normal embryogenesis. GnT-I is expressed ubiquitously and exists as multiple variants that encode the same functional protein.

REFERENCES

- Kumar, R., et al. 1990. Cloning and expression of N-acetylglucosaminyltransferase I, the medial Golgi transferase that initiates complex N-linked carbohydrate formation. *Proc. Natl. Acad. Sci. USA* 87: 9948-9952.
- Hull, E., et al. 1991. Organization and localization to chromosome 5 of the human UDP-N-acetylglucosamine: α -3-D-mannoside β -1,2-N-acetylglucosaminyltransferase I gene. *Biochem. Biophys. Res. Commun.* 176: 608-615.
- Kumar, R., et al. 1992. Cloning and expression of the murine gene and chromosomal location of the human gene encoding N-acetylglucosaminyltransferase I. *Glycobiology* 2: 383-393.
- Tan, J., et al. 1995. The human UDP-N-acetylglucosamine: α -6-D-mannoside- β -1,2-N-acetylglucosaminyltransferase II gene (MGAT2). Cloning of genomic DNA, localization to chromosome 14q21, expression in insect cells and purification of the recombinant protein. *Eur. J. Biochem.* 231: 317-328.
- Yip, B., et al. 1997. Organization of the human β -1,2-N-acetylglucosaminyltransferase I gene (MGAT1), which controls complex and hybrid N-glycan synthesis. *Biochem. J.* 321: 465-474.
- Yen, C.L., et al. 2002. Identification of a gene encoding MGAT1, a monoacylglycerol acyltransferase. *Proc. Natl. Acad. Sci. USA* 99: 8512-8517.
- Saribas, A.S., et al. 2007. Refolding of human β -1-2 GlcNAc transferase (GnT-I) and the role of its unpaired Cys 121. *Biochem. Biophys. Res. Commun.* 362: 381-386.
- Kragler, A., et al. 2008. Synthesis and biological evaluation of amino-methylphenol derivatives as inhibitors of the murine GABA transporters mGaT-I-mGaT-IV. *Eur. J. Med. Chem.* 43: 2404-2411.

CHROMOSOMAL LOCATION

Genetic locus: MGAT1 (human) mapping to 5q35.3; Mgat1 (mouse) mapping to 11 B1.2.

SOURCE

GnT-I (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GnT-I 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-27271 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GnT-I (K-16) is recommended for detection of GnT-I 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).

GnT-I (K-16) is also recommended for detection of GnT-I in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for GnT-I siRNA (h): sc-106893, GnT-I siRNA (m): sc-145661, GnT-I shRNA Plasmid (h): sc-106893-SH, GnT-I shRNA Plasmid (m): sc-145661-SH, GnT-I shRNA (h) Lentiviral Particles: sc-106893-V and GnT-I shRNA (m) Lentiviral Particles: sc-145661-V.

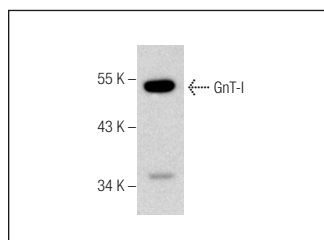
Molecular Weight of GnT-I: 51 kDa.

Positive Controls: A549 cell lysate: sc-2413, Jurkat whole cell lysate: sc-2204 or Y79 cell lysate: sc-2240.

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



GnT-I (K-16): sc-27271. Western blot analysis of GnT-I expression in A549 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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.