

GCNT1 (I-19): sc-130143

BACKGROUND

GCNT1, also designated core 2 β 1,6-N-acetylglucosaminyltransferase I or C2GnT-I, plays an important regulatory role in the biosynthesis of mucin-type O-glycans, which serve as ligands in cell adhesion. GCNT1 is expressed in a variety of cell types, including lymphocytes and mucin-producing cells. Specifically, GCNT1 expression in leukocytes regulates the synthesis of core 2 O-glycans that carry sialyl-Lewis x (sLex) oligosaccharides, which confer high affinity binding to selectins. Downregulation of selectin ligand expression levels has been shown to inhibit tissue infiltration. Therefore, GCNT1 represents a potential drug target for the treatment of inflammatory disorders and other pathologies involving selectins.

REFERENCES

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- Yen, T.Y., et al. 2003. Highly conserved cysteines of mouse core 2 β 1,6-N-acetylglucosaminyltransferase I form a network of disulfide bonds and include a thiol that affects enzyme activity. *J. Biol. Chem.* 278: 45864-45881.
- Prorok-Hamon, M., et al. 2005. N-glycans of core 2 β 1,6-N-acetylglucosaminyltransferase-I (C2GnT-I) but not those of α 1,3-fucosyltransferase-VII (FucT-VII) are required for the synthesis of functional P-Selectin glycoprotein ligand-1 (PSGL-1): effects on P-, L- and E-selectin binding. *Biochem. J.* 391: 491-502.
- Kikuchi, J., et al. 2005. Not core 2 β 1,6-N-acetylglucosaminyltransferase-2 or -3 but -1 regulates sialyl-Lewis x expression in human precursor B cells. *Glycobiology* 15: 271-280.
- Kikuchi, J., et al. 2005. Transfection of antisense core 2 β 1,6-N-acetylglucosaminyltransferase-1 cDNA suppresses selectin ligand expression and tissue infiltration of B-cell precursor leukemia cells. *Leukemia* 19: 1934-1940.
- Prorok-Hamon, M., et al. 2006. Visualizing intracellular distribution and activity of core 2 β 1,6-N-acetylglucosaminyltransferase-1 in living cells. *Methods Mol. Biol.* 347: 171-186.
- Falkenberg, V.R. and Fregien, N. 2007. Control of core 2 β 1,6-N-acetylglucosaminyltransferase-I transcription by Sp1 in lymphocytes and epithelial cells. *Glycoconj. J.* 24: 511-519.

CHROMOSOMAL LOCATION

Genetic locus: GCNT1 (human) mapping to 9q21.13; Gcnt1 (mouse) mapping to 19 B.

SOURCE

GCNT1 (I-19) is a purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of GCNT1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GCNT1 (I-19) is recommended for detection of GCNT1 of mouse 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GCNT1 siRNA (h): sc-92945, GCNT1 siRNA (m): sc-145363, GCNT1 shRNA Plasmid (h): sc-92945-SH, GCNT1 shRNA Plasmid (m): sc-145363-SH, GCNT1 shRNA (h) Lentiviral Particles: sc-92945-V and GCNT1 shRNA (m) Lentiviral Particles: sc-145363-V.

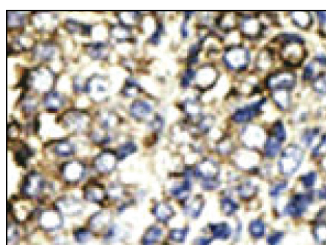
Molecular Weight of GCNT1: 50 kDa.

Positive Controls: human cancer tissue or mouse kidney extract: sc-2255.

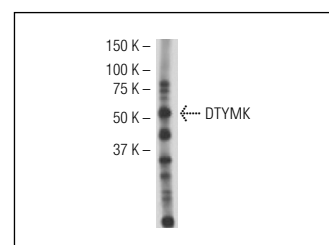
RECOMMENDED SECONDARY REAGENTS

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 Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



GCNT1 (I-19): sc-130143. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.



GCNT1 (I-19): sc-130143. Western blot analysis of GCNT1 expression in mouse kidney tissue extract.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.