

GCNT1 (H-43): sc-134711

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

1. Falkenberg, V.R., et al. 2003. Multiple transcription initiation and alternative splicing in the 5' untranslated region of the core 2 β 1,6-N-acetylglucosaminyltransferase I gene. *Glycobiology* 13: 411-418.
2. 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.
3. 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.
4. 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.
5. 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.

CHROMOSOMAL LOCATION

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

SOURCE

GCNT1 (H-43) is a rabbit polyclonal antibody raised against amino acids 8-50 mapping near the N-terminus of GCNT1 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.

STORAGE

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

APPLICATIONS

GCNT1 (H-43) is recommended for detection of GCNT1 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).

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.

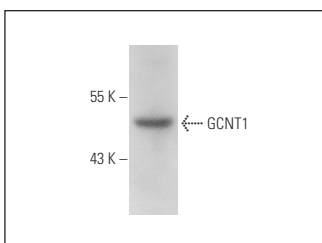
Molecular Weight of GCNT1: 50 kDa.

Positive Controls: 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.

DATA



GCNT1 (H-43): sc-134711. Western blot analysis of GCNT1 expression in mouse kidney tissue extract.

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.