SANTA CRUZ BIOTECHNOLOGY, INC.

GCNT2 (N-12): sc-161625

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Belonging to the glycosyltransferase 14 family, GCNT2 (glucosaminyl (N-acetyl) transferase 2, I-branching enzyme (I blood group)), also known as II, N-acetylglucosaminyltransferase, IGNT, CCAT, ULG3, GCNT5, GCNT2C or NACGT1, is a 400 amino acid glycosyltransferase that localizes to the Golgi apparatus. Other members of the glycosyltransferase 14 family include GCNT1, GCNT3, GCNT4, GCNT6 and GCNT7. A single-pass type II membrane protein, GCNT2 functions as a branching enzyme known as β-1,6-N-acetylglucosaminyltransferase, which converts fetal i antigen to adult I antigen in erythrocytes during embryonic development. With expression levels increasing significantly during oncogenesis and development, GCNT2 is found at highest levels in adult prostate and fetal brain, and is found at low levels in heart, small intestine, colon, brain, pancreas and kidney.

REFERENCES

1. Fukuda, M., et al. 1979. Developmental change and genetic defect in the carbohydrate structure of band 3 glycoprotein of human erythrocyte membrane. J. Biol. Chem. 254: 3700-3703.
2. Bierhuizen, M.F., et al. 1995. Genomic organization of core 2 and I branching β-1,6-N-acetylglucosaminyltransferases. Implication for evolution of the β-1,6-N-acetylglucosaminyltransferase gene family. Glycobiology 5: 417-425.
3. Sasaki, K., et al. 1997. Expression cloning of cDNA encoding a human β-1,3-N-acetylglucosaminyltransferase that is essential for poly-N-acetyllactosamine synthesis. Proc. Natl. Acad. Sci. USA 94: 14294-14299.
4. Yu, L.C., et al. 2001. Molecular basis of the adult i phenotype and the gene responsible for the expression of the human blood group I antigen. Blood 98: 3840-3845.
5. Inaba, N., et al. 2003. A novel I-branching β-1,6-N-acetylglucosaminyltransferase involved in human blood group I antigen expression. Blood 101: 2870-2876.

CHROMOSOMAL LOCATION

Genetic locus: GCNT2 (human) mapping to 6p24.3.

SOURCE

GCNT2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GCNT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161625 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GCNT2 (N-12) is recommended for detection of GCNT2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 GCNT2 siRNA (h): sc-95267, GCNT2 shRNA Plasmid (h): sc-95267-SH and GCNT2 shRNA (h) Lentiviral Particles: sc-95267-V.

Molecular Weight (predicted) of GCNT2: 46 kDa.

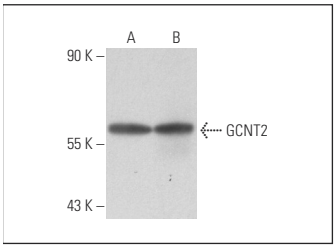
Molecular Weight (observed) of GCNT2: 63 kDa.

Positive Controls: THP-1 cell lysate: sc-2238 or HL-60 whole cell lysate: sc-2209.

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



GCNT2 (N-12): sc-161625. Western blot analysis of GCNT2 expression in THP-1 (**A**) and HL-60 (**B**) whole cell lysates.

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.