SANTA CRUZ BIOTECHNOLOGY, INC.

GCNT3 (D-7): sc-398646

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Belonging to the glycosyltransferase 14 family, GCNT3, also known as β-1,3-galactosyl-O-glycosyl-glycoprotein β-1,6-N-acetylglucosaminyltransferase 3 or core 2/core 4 β-1,6-N-acetylglucosaminyltransferase (C2/4GnT), is a 438 amino acid glycosyltransferase that is localized to the Golgi apparatus. Other members of this family include GCNT1, GCNT2, GCNT4, GCNT6 and GCNT7. GCNT3 has been shown to play an important regulatory role in the synthesis of all known mucin β6 N-acetylglucosaminides and in mediating core 2 and core 4 O-glycan branching, two important steps in mucin-type biosynthesis. Primarily expressed in mucus-secreting tissues, GCNT3 displays I-branching enzyme activity by converting linear into branched poly-N-acetyllactosaminoglycans, leading to the introduction of the blood group I antigen during embryonic development.

REFERENCES

1. El-Battari, A., et al. 2003. Different glycosyltransferases are differentially processed for secretion, dimerization, and autoglycosylation. Glycobiology 13: 941-953.
2. Hiraoka, N., et al. 2004. Core 2 branching β1,6-N-acetylglucosaminyltransferase and high endothelial venule-restricted sulfotransferase collaboratively control lymphocyte homing. J. Biol. Chem. 279: 3058-3067.
3. Beum, P.V., et al. 2005. Mucin biosynthesis: upregulation of core 2 β1,6 N-acetylglucosaminyltransferase by retinoic acid and Th2 cytokines in a human airway epithelial cell line. Am. J. Physiol. Lung Cell. Mol. Physiol. 288: L116-L124.
4. Hagisawa, S., et al. 2005. Expression of core 2 β1,6-N-acetylglucosaminyltransferase facilitates prostate cancer progression. Glycobiology 15: 1016-1024.

CHROMOSOMAL LOCATION

Genetic locus: GCNT3 (human) mapping to 15q22.2.

SOURCE

GCNT3 (D-7) is a mouse monoclonal antibody raised against amino acids 63-129 mapping within an internal region of GCNT3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GCNT3 (D-7) is available conjugated to agarose (sc-398646 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398646 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398646 PE), fluorescein (sc-398646 FITC), Alexa Fluor® 488 (sc-398646 AF488), Alexa Fluor® 546 (sc-398646 AF546), Alexa Fluor® 594 (sc-398646 AF594) or Alexa Fluor® 647 (sc-398646 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398646 AF680) or Alexa Fluor® 790 (sc-398646 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

GCNT3 (D-7) is recommended for detection of GCNT3 of human origin by Western Blotting (starting dilution 1:100, 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 GCNT3 siRNA (h): sc-89937, GCNT3 shRNA Plasmid (h): sc-89937-SH and GCNT3 shRNA (h) Lentiviral Particles: sc-89937-V.

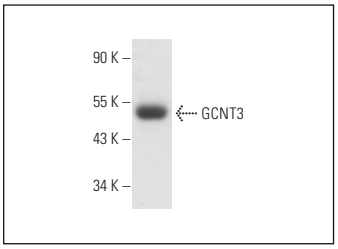
Molecular Weight of GCNT3: 51 kDa.

Positive Controls: HCT-116 whole cell lysate: sc-364175 or A549 cell lysate: sc-2413.

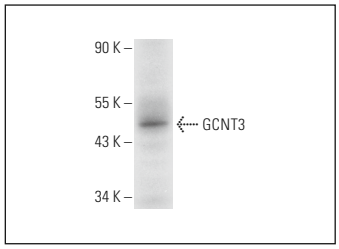
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GCNT3 (D-7): sc-398646. Western blot analysis of GCNT3 expression in A549 whole cell lysate.



GCNT3 (D-7): sc-398646. Western blot analysis of GCNT3 expression in HCT-116 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.