SANTA CRUZ BIOTECHNOLOGY, INC.

# GnT-V (3E9): sc-293276

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

UDP-N-acetylglucosamine:α mannoside β1, 6 N-acetylglucosaminyl-transferase, known as GnT-V, plays a pivotal role in the processing of N-linked glycoproteins and influences cancer progression and metastasis. Expression of GnT-V in the liver is enhanced during hepatocarcinogenesis, although it is not expressed in normal liver. Gene expression of GnT-V is regulated by a transcriptional factor, which is involved in angiogenesis and invasion of tumor cells. When the formation of the product of GnT-V, GlcNAc-β1-6, is inhibited by overexpression of GnT-III, lung metastasis of melanoma cells is suppressed. Modification of glycoprotein receptors such as the receptors for epidermal growth factor and nerve growth factor by GnT-III sense transfection changes an intracellular signaling pathway, which may lead to a variety of biological alterations in tumor cells.

## REFERENCES


1. Taniguchi, N., et al. 1999. Implication of N-acetylglucosaminyltransferases III and V in cancer: gene regulation and signaling mechanism. Biochim. Biophys. Acta 1455: 287-300.
2. Ito, Y., et al. 2001. Elevated expression of UDP-N-acetylglucosamine: alphamannoside β1,6 N-acetylglucosaminyltransferase is an early event in hepatocarcinogenesis. Int. J. Cancer 91: 631-637.
3. Guo, H.B., et al. 2001. Relationship between metastasis-associated phenotypes and N-glycan structure of surface glycoproteins in human hepatocarcinoma cells. J. Cancer Res. Clin. Oncol. 127: 231-236.
4. Fukuzumi, M., et al. 2001. Comparison of the expression of cell surface poly-N-acetyllactosamine-type oligosaccharides in PC-12 cells with those in its variant PC12D. Glycobiology 11: 481-494.
5. Fukuta, K., et al. 2001. The widespread effect of β 1,4-galactosyltransferase on N-glycan processing. Arch. Biochem. Biophys. 392: 79-86.


## CHROMOSOMAL LOCATION

Genetic locus: MGAT5 (human) mapping to 2q21.2.

## SOURCE

GnT-V (3E9) is a mouse monoclonal antibody raised against amino acids 642-739 of GnT-V of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_{2a}$ kappa light chain 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.

## PROTOCOLS

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

## APPLICATIONS

GnT-V (3E9) is recommended for detection of GnT-V 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), 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 GnT-V siRNA (h): sc-40642, GnT-V shRNA Plasmid (h): sc-40642-SH and GnT-V shRNA (h) Lentiviral Particles: sc-40642-V.

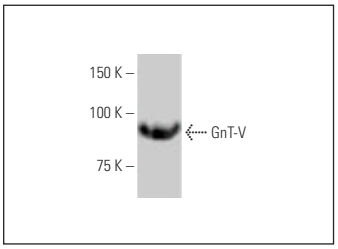
Molecular Weight of GnT-V: 85 kDa.

Positive Control: Jurkat whole cell lysate: sc-2204.

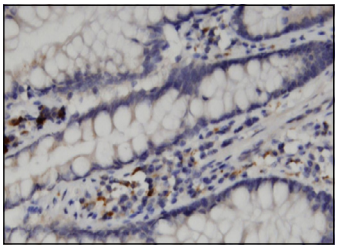
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA




GnT-V (3E9): sc-293276. Western blot analysis of GnT-V expression in Jurkat whole cell lysate.



GnT-V (3E9): sc-293276. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small Intestine tissue showing membrane staining.

## SELECT PRODUCT CITATIONS


1. Zhang, Z., et al. 2018. The role of extracellular matrix metalloproteinase inducer glycosylation in regulating matrix metalloproteinases in periodontitis. J. Periodontal Res. 53: 391-402.
2. Zhang, L., et al. 2021. VE-cadherin N-glycosylation modified by N-acetylglucosaminyltransferase V regulates VE-cadherin-β-catenin interaction and monocyte adhesion. Exp. Physiol. 106: 1869-1877.


## RESEARCH USE

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