SANTA CRUZ BIOTECHNOLOGY, INC.

GnT-V (S-15): sc-19088

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

UDP-N-acetylglucosamine:α mannoside β1, 6 N-acetylglucosaminyltransferase, 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: αmannoside β1,6 N-acetylglucosaminyltransferase is an early event in hepato-carcinogenesis. 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. 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; Mgat5 (mouse) mapping to 1 E3.

SOURCE

GnT-V (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GnT-V 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-19088 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.

RESEARCH USE

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

APPLICATIONS

GnT-V (S-15) is recommended for detection of GnT-V of mouse, rat and 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).

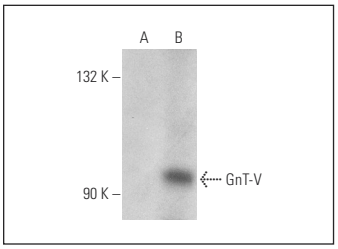
GnT-V (S-15) is also recommended for detection of GnT-V in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GnT-V siRNA (h): sc-40642, GnT-V siRNA (m): sc-40643, GnT-V shRNA Plasmid (h): sc-40642-SH, GnT-V shRNA Plasmid (m): sc-40643-SH, GnT-V shRNA (h) Lentiviral Particles: sc-40642-V and GnT-V shRNA (m) Lentiviral Particles: sc-40643-V.

Molecular Weight of GnT-V: 85 kDa.

Positive Controls: GnT-V (h): 293T Lysate: sc-159554.

DATA



GnT-V (S-15): sc-19088. Western blot analysis of GnT-V expression in non-transfected: sc-117752 (**A**) and human GnT-V transfected: sc-159554 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, L., et al. 2007. Increase in β1-6 GlcNAc branching caused by N-acetylglucosaminyltransferase V directs integrin β1 stability in human hepatocellular carcinoma cell line SMMC-7721. J. Biol. Chem. 100: 230-241.
2. Yang, X., et al. 2008. N-acetylglucosaminyltransferase V modifies TrKA protein, regulates the receptor function. Cell. Mol. Neurobiol. 28: 663-670.
3. Wang, X., et al. 2013. Clinical and prognostic implications of β1, 6-N-acetylglucosaminyltransferase V in patients with gastric cancer. Cancer Sci. 104: 185-193.
4. Qi, J., et al. 2014. β1,6 GlcNAc branches-modified PTPRT attenuates its activity and promotes cell migration by STAT3 pathway. PloS ONE 9: e98052.