

ST6GAL1 (ZB55): sc-20063

BACKGROUND

Modification of cell surface glycoprotein and glycolipid oligosaccharides is thought to play a role in tumorigenesis and metastasis. Sialyltransferases catalyze the incorporation of sialic acid into the carbohydrate chains present on glycoproteins and function in intracellular terminal glycosylation pathways. The expression of one such sialyltransferase, CD75, (also known as ST6GAL1), leads to the appearance of the cell surface antigens CD76, HB6 and CDw75. Expressed in the golgi apparatus and secreted into the extracellular fluid, CD75 is a type II membrane protein that is involved in generating sialylated antigens that function as cell-surface carbohydrate determinants. One such antigen, CDw75 (also known as CD75s or CD75-sialylated), is formed via the catalytic transfer of a sialic acid residue from CD75 to a cell surface galactose-containing carbohydrate acceptor. While CD75 functions in cells throughout the body, CDw75 is found primarily on B and T cells and may be upregulated in B-cell leukemias, suggesting a possible role for CDw75 in carcinogenesis.

REFERENCES

1. Epstein, A.L., et al. 1987. Two new monoclonal antibodies, Lym-1 and Lym-2, reactive with human B-lymphocytes and derived tumors, with immunodiagnostic and immunotherapeutic potential. *Cancer Res.* 47: 830-840.
2. Stamenkovic, I., et al. 1991. The B lymphocyte adhesion molecule CD22 interacts with leukocyte common antigen CD45RO on T cells and α -2-6 sialyltransferase, CD75, on B cells. *Cell* 66: 1133-1144.
3. Erikstein, B.K., et al. 1992. Cell cycle-dependent regulation of CDw75 (β -galactoside α -2, 6-sialyltransferase) on human B lymphocytes. *Eur. J. Immunol.* 2: 1149-1155.
4. Bast, B.J., et al. 1992. The HB6, CDw75, and CD76 differentiation antigens are unique cell-surface carbohydrate determinants generated by the β -galactoside α 2,6-sialyltransferase. *J. Cell Biol.* 116: 423-435.

CHROMOSOMAL LOCATION

Genetic locus: ST6GAL1 (human) mapping to 3q27.3.

SOURCE

ST6GAL1 (ZB55) is a mouse monoclonal antibody raised against a CD32 peptide.

PRODUCT

Each vial contains 200 μ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ST6GAL1 (ZB55) is available conjugated to either phycoerythrin (sc-20063 PE) or fluorescein (sc-20063 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

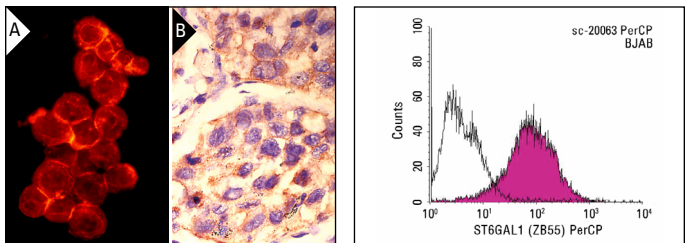
ST6GAL1 (ZB55) is recommended for detection of ST6GAL1 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Molecular Weight of ST6GAL1: 46 kDa.

RECOMMENDED SUPPORT REAGENTS

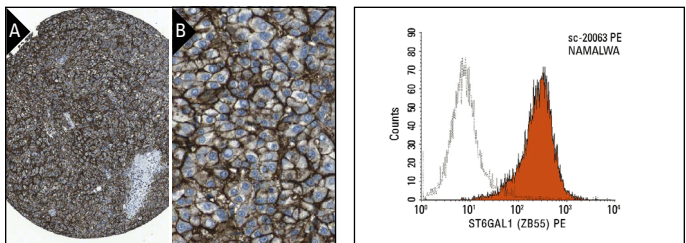
To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ST6GAL1 (ZB55): sc-20063. Immunofluorescence staining of methanol-fixed NAMALWA cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tumor showing membrane and cytoplasmic localization (B).

ST6GAL1 (ZB55): sc-20063. Indirect FCM analysis of BJAB cells stained with ST6GAL1 (ZB55), followed by PerCP-conjugated goat anti-mouse IgM: sc-45094. Black line histogram represents the isotype control, normal mouse IgM: sc-3881.



ST6GAL1 (ZB55): sc-20063. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver cancer showing membrane staining of tumor cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

ST6GAL1 (ZB55) PE: sc-20063 PE. FCM analysis of NAMALWA cells. Black line histogram represents the isotype control, normal mouse IgM-PE: sc-2870.

SELECT PRODUCT CITATIONS

1. Haldar, B., et al. 2022. The incorrect use of CD75 as a synonym for ST6GAL1 has fostered the expansion of commercial "ST6GAL1" antibodies that do not recognize ST6GAL1. *Glycobiology* 32: 736-742.

RESEARCH USE

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