Human ST6 GalNAc α-2,6-sialyltransferase V/ST6GALNAC5 Antibody

Monoclonal Mouse IgG_{2A} Clone # 719508

Catalog Number: MAB67151

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GalNAc α-2,6-sialyltransferase V/ST6GALNAC5 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) ST6GALNAC4 or rhST6GALNAC6 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 719508
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human SGalNAc α-2,6-sialyltransferase V/ST6GALNAC5 Gly30-Phe336 Accession # Q9BVH7
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

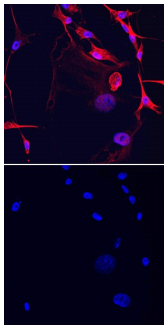
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Immunocytochemistry	8-25 µg/mL	See Below

DATA

Immunocytochemistry



GalNAc α-2,6-sialyltransferase V/ST6GALNAC5 in MDA-MB-231 Human Cell Line.
GalNAc α-2,6-sialyltransferase V/ST6GALNAC5 was detected in immersion fixed MDA-MB-231 human breast cancer cell line using Mouse Anti-Human GalNAc α-2,6-sialyltransferase V/ST6GALNAC5 Monoclonal Antibody (Catalog # MAB67151) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red, upper panel; Catalog # NL007) and counterstained with DAPI (blue, lower panel). Specific staining was localized to cell membranes and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Gangliosides are acidic glycosphingolipids that contain one or more sialic acid residues (1). They are abundant in the nervous system, where they play crucial modulatory roles in cellular recognition, interaction, adhesion, and signal transduction, particularly during early developmental stages. The expression of gangliosides in the nervous system is developmentally regulated through various sialyltransferases (2). ST6GALNAC5 is a sialyltransferase involved in the biosynthesis of ganglioside GD1a (NeuAcα2,3Galβ1,3GalNAcβ1,4(NeuAcα2,3)Galβ1,4Glcβ1-Cer) from GM1b (NeuAcα2,3Galβ1,3GalNAcβ1,4Galβ1,4Glcβ1-Cer), and its expression is restricted to the brain (3, 4). ST6GALNAC5 has been identified as a key player in the metastasis of breast cancer cells to the brain by potentially enabling the cancer cells to cross the blood-brain barrier (5, 6). The recombinant ST6GALNAC5 was active on fetuin from fetal calf serum when assayed using a phosphatase-coupled method (7) suggesting the substrate specificity of ST6GALNAC5 may require further characterization.

References:

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4. Harduin-Lepers, A. *et al.* (2005) Glycobiology **15**:805.
5. Bos, P.D. *et al.* (2009) Nature **459**:1005.
6. Arshad, F. *et al.* (2011). Patholog. Res. Int. DOI: **10**.4061/2011/920509.
7. Wu, Z.L. *et al.* (2010) Glycobiology DOI: **10**.1093/glycob/cwq187.

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