Human β-1,3-Glucuronyltransferase 1/B3GAT1 Antibody

Monoclonal Mouse IgG_{2A} Clone # 1002707

Catalog Number: MAB8560

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human β-1,3-Glucuronyltransferase 1/B3GAT1 in direct ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 1002707
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human β-1,3-Glucuronyltransferase 1/B3GAT1 His25-Ile334 Accession # Q9P2W7
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.

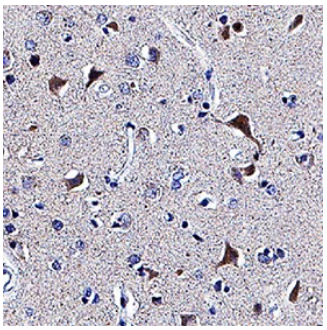
APPLICATIONS

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
Immunohistochemistry	5-25 µg/mL	See Below

DATA

Immunohistochemistry



β-1,3-Glucuronyltransferase 1/B3GAT1 in Human Brain. β-1,3-Glucuronyltransferase 1/B3GAT1 was detected in immersion fixed paraffin-embedded sections of human brain (cortex) using Mouse Anti-Human β-1,3-Glucuronyltransferase 1/B3GAT1 Monoclonal Antibody (Catalog # MAB8560) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in neurons. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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

B3GAT1 is a key enzyme involved in human natural killer1 (HNK1) epitope synthesis. It adds a glucuronic residue to the terminal lactosamine residue (Galβ14GlcNAc) of a glycoprotein or glycolipid, which can be further sulfated to become the HNK1 epitope, a unique trisaccharide structure, HSO_3-3GlcAβ1-3Galβ1-4GlcNAc (1, 2). The enzyme activity was found to be enhanced in the presence of sphingomyelin and phosphatidylinositol (3). The HNK1 carbohydrate epitope is characteristically expressed on a series of cell adhesion molecules in addition to some glycolipids in the extracellular matrix and on the cell surface in the nervous system, where it is involved in cell-cell and cell-substratum interaction and recognition during the development of the nervous system (4). Like most known glycosyltransferases, B3GAT1 is a type II Golgi-resident transmembrane protein with a short N-terminal cytoplasmic domain and a single pass transmembrane domain followed by an enzymatic domain in the lumen of Golgi apparatus. The enzyme activity was assayed using a phosphatase-coupled method (5).

References:

1. Terayama, K. *et al.* (1997) Proc. Natl. Acad. Sci. USA **94**:6093.
2. Shogo, O. *et al.* (1992) J. Biol. Chem. **267**: 22711.
3. Kakuda, S. *et al.* (2005) Glycobiology **2**:203.
4. Bollensen, E. and Schachner, M. (1987) Neurosci Lett. **82**:77.
5. Wu, Z.L. *et al.* (2011) Glycobiology **21**:727.

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