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

Monoclonal Mouse IgG_1 Clone # 882302

Catalog Number: MAB6698

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat β-1,3-Glucuronyltransferase 1/B3GAT1 in ELISA.
Source	Monoclonal Mouse IgG_1 Clone # 882302
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat β-1,3-Glucuronyltransferase 1/B3GAT1 Asp75-Ile347 Accession # NP_445455
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.

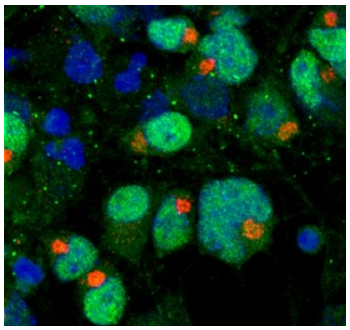
APPLICATIONS

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



β-1,3-Glucuronyltransferase 1/B3GAT1 in Rat Cortical Stem Cells. β-1,3-Glucuronyltransferase 1/B3GAT1 was detected in immersion fixed differentiated rat cortical stem cells using Mouse Anti-Rat β-1,3-Glucuronyltransferase 1/B3GAT1 Monoclonal Antibody (Catalog # MAB6698) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007). Oligo2 was also detected in the cells using Human Olig2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2418) and NorthernLights™ 637-conjugated Anti-Goat IgG Secondary Antibody (green; Catalog # NL003). Cells were counterstained with DAPI (blue). Specific staining of B3GAT1 was localized to transmembrane Golgi. View our protocol for Fluorescent ICC Staining of Stem Cells on Coverslips.

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.

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BACKGROUND

B3GAT1 is a key enzyme involved in human natural killer-1 (HNK-1) epitope synthesis. It adds a glucuronic residue to the terminal lactosamine residue (Galβ1-4GlcNAc-) of a glycoprotein or glycolipid, which can be further sulfated to become the HNK-1 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 HNK-1 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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