

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 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μ m filtered solution in PBS.

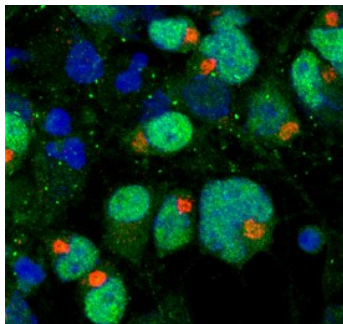
APPLICATIONS

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 μ g/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 μ g/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. <ul style="list-style-type: none"> ● 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 killer-1 (HNK-1) epitope synthesis. It adds a glucuronic residue to the terminal lactosamine residue (Gal β 1-4GlcNAc-) of a glycoprotein or glycolipid, which can be further sulfated to become the HNK-1 epitope, a unique trisaccharide structure, HSO₃-3GlcA β 1-3Gal β 1-4GlcNAc- (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.