Anti-B3GAT1 Antibody

HA500443

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IF-Cell, FC
Molecular Wt:	38 kDa

Description: 3-beta-glucuronosyltransferase 1 (B3GAT1) is an enzyme that in humans is encoded by the B3GAT1 gene, whose enzymatic activity creates the CD57 epitope on other cell surface proteins.[5] In immunology, the CD57 antigen (CD stands for cluster of differentiation) is also known as HNK1 (human natural killer-1) or LEU7. It is expressed as a carbohydrate epitope that contains a sulfoglucuronyl residue in several adhesion molecules of the nervous system. The protein encoded by this gene is a member of the glucuronyltransferase gene family. These enzymes exhibit strict acceptor specificity, recognizing nonreducing terminal sugars and their anomeric linkages. This gene product functions as the key enzyme in a glucuronyl transfer reaction during the biosynthesis of the carbohydrate epitope HNK-1 (human natural killer-1, also known as CD57 and LEU7). Alternate transcriptional splice variants have been characterized. In anatomical pathology, CD57 (immunostaining) is similar to CD56 for use in differentiating neuroendocrine tumors from others. There is an increase in the number of circulating CD57 positive cells in the blood of patients who have recently undergone organ or tissue transplants, especially of the bone marrow, and in patients with HIV.

Immunogen: Recombinant protein within human B3GAT1 aa 130-334 / 334 (Lumenal).

Positive control: Rat brain tissue lysates, mouse brain tissue, SH-SY5Y.

Subcellular location: Secreted, golgi apparatus membrane, endoplasmic reticulum membrane.

Database links: SwissProt: Q9P2W7 Human | Q9CW73 Mouse | O35789 Rat

Recommended Dilutions:

WB	1:500-1:2,000
IHC-P	1:50-1:100
IF-Cell	1:50-1:100
FC	1:100-1:500

Storage Buffer: 1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

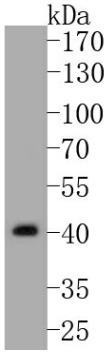

Fig1: Western blot analysis of B3GAT1 on rat brain tissue lysates. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST. for 1 hour at room temperature. The primary antibody (HA500443, 1/500) was used in 5% NFDM/TBST. at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.

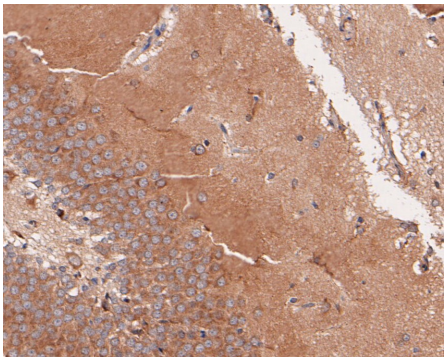

Fig2: Immunohistochemical analysis of paraffin-embedded mouse brain tissue using anti-B3GAT1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA500443, 1/50) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

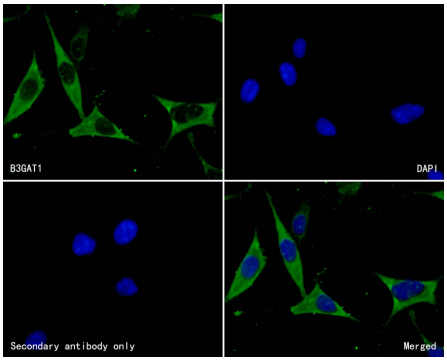

Fig3: ICC staining of B3GAT1 in SH-SY5Y cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (HA500443, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

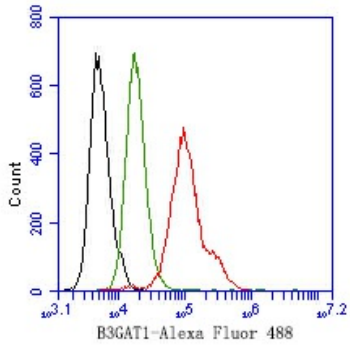

Fig4: Flow cytometric analysis of B3GAT1 was done on SH-SY5Y cells. The cells were fixed, permeabilized and stained with the primary antibody (HA500443, 1ug/ml) (red) compared with Rabbit IgG, monoclonal - Isotype Control (green). After incubation of the primary antibody at +4℃ for 1 hour, the cells were stained with a Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG Secondary antibody at 1/1,000 dilution for 30 minutes at +4℃ (dark incubation).Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. Górska A. et. al. The Role of TRAF4 and B3GAT1 Gene Expression in the Food Hypersensitivity and Insect Venom Allergy in Mastocytosis. Arch Immunol Ther Exp (Warsz). 2016 Dec
2. Huffman JE. et. al. Polymorphisms in B3GAT1, SLC9A9 and MGAT5 are associated with variation within the human plasma N-glycome of 3533 European adults. Hum Mol Genet. 2011 Dec