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B4GalT1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8892b

Product Information

Application	WB, FC, E
Primary Accession	P15291
Other Accession	P15535, P08037
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21685
Calculated MW	43920
Antigen Region	329-358

Additional Information

Gene ID	2683
Other Names	Beta-1, 4-galactosyltransferase 1, Beta-1, 4-GalTase 1, Beta4Gal-T1, b4Gal-T1, 241-, UDP-Gal:beta-GlcNAc beta-1, 4-galactosyltransferase 1, UDP-galactose:beta-N-acetylglucosamine beta-1, 4-galactosyltransferase 1, Lactose synthase A protein, N-acetyllactosamine synthase, Nal synthase, Beta-N-acetylglucosaminylglycopeptide beta-1, 4-galactosyltransferase, Beta-N-acetylglucosaminyl-glycolipid beta-1, 4-galactosyltransferase, 241-, Processed beta-1, 4-galactosyltransferase 1, B4GALT1, GGTB2
Target/Specificity	This B4GalT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 329-358 amino acids from the C-terminal region of human B4GalT1.
Dilution	WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	B4GalT1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	B4GALT1 (HGNC:924)
Synonyms	GGTB2
Function	Galactosyltransferase acting in the Golgi stacks. Catalyzes the transfer of galactose (Gal) from UDP-alpha-D-galactose in beta(1->4) linkage to the non-reducing terminal N-acetylglucosamine (GlcNAc) moieties of glycolipids and complex-type N-linked glycans (PubMed:16157350, PubMed:27872474, PubMed:29133956, PubMed:36280670, PubMed:37632720, PubMed:38321209). Adds one Gal residue to both GlcNAc beta(1->2)-linked to the alpha(1->3) and alpha(1->6) mannose antennae of complex-type N-glycans, enabling the formation of mono- and di- galactosylated glycoforms. Galactosylates complex-type N-glycans attached on the fragment crystallizable (Fc) of immunoglobulin-gamma isotypes (IgGs), a prerequisite for antibody glycan sialylation and related anti-inflammatory effector functions (PubMed:27872474, PubMed:29133956, PubMed:36280670, PubMed:37632720). Can also transfer a Gal residue to free GlcNAc to form N-acetyllactosamine (PubMed:16157350). With LALBA/alpha-lactalbumin forms the lactose synthase complex responsible for production of large amounts of lactose in the lactating mammary gland. Interaction with LALBA alters the sugar substrate specificity of the catalytic domain, enabling high affinity binding of glucose and its transformation to lactose (PubMed:16157350).
Cellular Location	Golgi apparatus, Golgi stack membrane; Single-pass type II membrane protein Note=Colocalizes with MGAT3 and ST6GAL1 in the Golgi stacks of cisternaee, including the cis-part of the Golgi stacks [Isoform Short]: Golgi apparatus, Golgi stack membrane; Single-pass type II membrane protein. Note=Found in trans cisternae of Golgi
Tissue Location	Ubiquitously expressed, but at very low levels in fetal and adult brain

Background

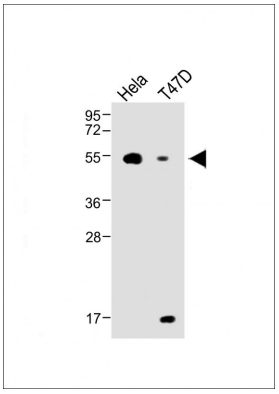
B4GalT1 is an enzyme that participates both in glycoconjugate and lactose biosynthesis. For the first activity, the enzyme adds galactose to N-acetylglucosamine residues that are either monosaccharides or the nonreducing ends of glycoprotein carbohydrate chains. The second activity is restricted to lactating mammary tissues where the enzyme forms a heterodimer with alpha-lactalbumin to catalyze UDP-galactose + D-glucose UDP + lactose. The two enzymatic forms result from alternate transcription initiation sites and post-translational processing.

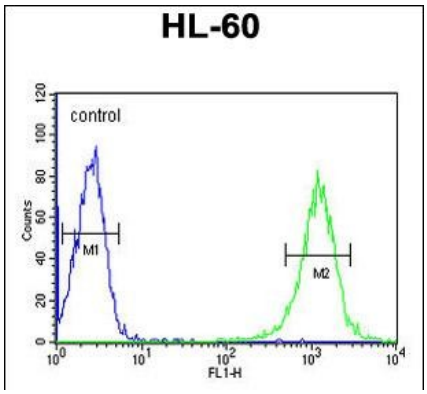
References

Mengle-Gaw,L., et.al., Biochem. Biophys. Res. Commun. 176 (3), 1269-1276 (1991)

Images

All lanes : Anti-B4GalT1 Antibody (C-term) at 1:1000 dilution Lane 1: Hela, whole cell lysate Lane 2: T47D whole cell lysate ysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 50 kDa Blocking/Dilution buffer: 5% NFDM/TBST.





B4GalT1 Antibody (C-term) (Cat. #AP8892b) flow cytometric analysis of HL-60 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.