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# B4GalT1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8892b

## Product Information

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

## Additional Information

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| **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

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|---|---|
| **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

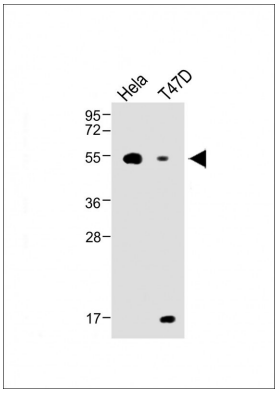
B4GalT1 is an enzyme that participates both in glycoconjugate and lactose biosynthesis. For the first activity, the enzyme adds galactose to N-acetylglucosamine residues that are either monosaccharides or the nonreducing ends of glycoprotein carbohydrate chains. The second activity is restricted to lactating 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.

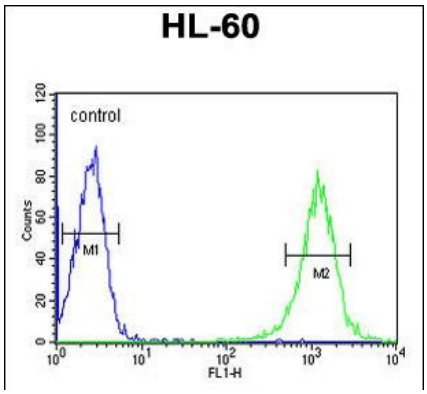
## References

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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.