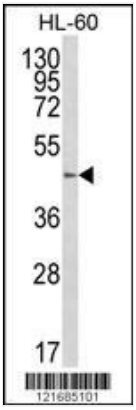
GGTB2 Antibody – Rabbit Polyclonal

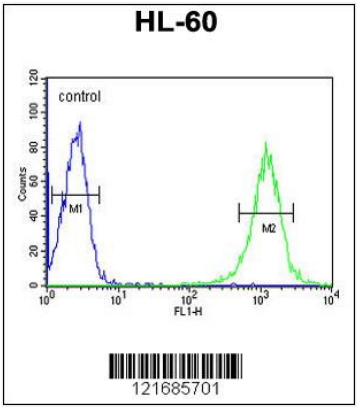
PRODUCT OVERVIEW

Product Name	GGTB2, Polyclonal Antibody
Full Product Name	GGTB2, CT (Beta-1,4-galactosyltransferase 1, Beta-1,4-GalTase 1, Beta4Gal-T1, b4Gal-T1, UDP-galactose:beta-N-acetylglucosamine beta-1,4-galactosyltransferase 1, UDP-Gal:beta-GlcNAc beta-1,4-galactosyltransferase 1, Processed beta-1,4-galactosyltransferase
Product Gene Name	anti-GGTB2 antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Fluorescein Isothiocyanate (FITC).
Purity/Purification	Purified by Protein A and Peptide Affinity Chromatography.
Specificity	Recognizes human B4GalT1.
Preparation and Storage	Store product at 4 degree C if to be used immediately within two weeks. For long-term storage, aliquot to avoid repeated freezing and thawing and store at -20 degree C. Aliquots are stable at -20 degree C for 12 months after receipt. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: FITC conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.
Molecular Weight	43,920 Da
Chromosome Location	Chromosome: 9; NC_000009.11 (33110639..33167356, complement). Location: 9p13
OMIM	137060
3D Structure	ModBase 3D Structure for P15291
Immunogen	KLH-conjugated synthetic peptide corresponding to a portion of amino acids within aa336-366 from the C-terminal region of human GGTB2.
Conjugate	FITC
Note	Preservative Free
Special Handling	Light sensitive
Product Categories/Family for anti-GGTB2 antibody	Antibodies; Enzymes; Glycosyltransferase
Applications Tested/Suitable for anti-GGTB2 antibody	Western Blot (WB), FLISA
Application Notes for anti-GGTB2 antibody	WB: 1:100-1:500 FLISA: 1:1000 Applications are based on unconjugated antibody.
Related Product Information for anti-GGTB2 antibody	MBS6477440 is an antibody targeting GGTB2. Also known as GGTB2, CT (Beta-1,4-galactosyltransferase 1, Beta-1,4-GalTase 1, Beta4Gal-T1, b4Gal-T1, UDP-galactose:beta-N-acetylglucosamine beta-1,4-galactosyltransferase 1, UDP-Gal:beta-GlcNAc beta-1,4-galactosyltransferase 1, Processed beta-1,4-galactosyltransferase. Reactive in Human. Host: Rabbit.

Product References and Citations for anti-GGTB2 antibody	1. Mengle-Gaw, L., et.al., Biochem. Biophys. Res. Commun. 176(3), 1269-1276 (1991).
Other Notes	Small volumes of anti-GGTB2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



Western Blot (WB) of anti-GGTB2 antibody
Western blot analysis of B4GalT1 Antibody (C-term) in HL-60 cell line lysates (35ug/lane). B4GALT1 (arrow) was detected using the purified Pab.



Flow Cytometry (FC/FACS) of anti-GGTB2 antibody
B4GalT1 Antibody (C-term) 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.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GGTB2. It may not necessarily be applicable to this product.

NCBI GI #	13929462
NCBI GeneID	2683
NCBI Accession #	NP_001488.2
UniProt Primary Accession #	P15291
UniProt Secondary Accession #	Q12909; Q12910; Q12911; Q14456; Q14509; Q14523; B2R710; D3DRL2
UniProt Related Accession #	P15291
GenBank Nucleotide #	NM_001497.3
NCBI Official Full Name	beta-1,4-galactosyltransferase 1
NCBI Official Synonym Full Names	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 1
NCBI Official Symbol	B4GALT1
NCBI Official Synonym Symbols	GT1; GTB; CDG2D; GGTB2; B4GAL-T1; beta4Gal-T1
UniProt Protein Name	Beta-1,4-galactosyltransferase 1
UniProt Synonym Protein Names	UDP-Gal:beta-GlcNAc beta-1,4-galactosyltransferase 1; UDP-galactose:beta-N-acetylglucosamine beta-1,4-galactosyltransferase 1Processed beta-1,4-galactosyltransferase 1Including the following 4 domains:Lactose synthase A protein (EC:2.4.1.22); N-acetyllactosamine synthase (EC:2.4.1.90)Alternative name(s):Nal synthase
UniProt Gene Name	B4GALT1
UniProt Synonym Gene Names	GGTB2; Beta-1,4-GalTase 1; Beta4Gal-T1; b4Gal-T1
UniProt Entry Name	B4GT1_HUMAN
NCBI Protein Information	beta-1,4-galactosyltransferase 1; lactose synthase; beta-1,4-GalTase 1; glycoprotein-4-beta-galactosyltransferase 2; UDP-Gal:beta-GlcNAc beta-1,4-galactosyltransferase 1; UDP-galactose:beta-N-acetylglucosamine beta-1,4-galactosyltransferase 1

NCBI Summary for GGTB2	This gene is one of seven beta-1,4-galactosyltransferase (beta4GalT) genes. They encode type II membrane-bound glycoproteins that appear to have exclusive specificity for the donor substrate UDP-galactose; all transfer galactose in a beta1,4 linkage to similar acceptor sugars: GlcNAc, Glc, and Xyl. Each beta4GalT has a distinct function in the biosynthesis of different glycoconjugates and saccharide structures. As type II membrane proteins, they have an N-terminal hydrophobic signal sequence that directs the protein to the Golgi apparatus and which then remains uncleaved to function as a transmembrane anchor. By sequence similarity, the beta4GalTs form four groups: beta4GalT1 and beta4GalT2, beta4GalT3 and beta4GalT4, beta4GalT5 and beta4GalT6, and beta4GalT7. This gene is unique among the beta4GalT genes because it encodes 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. Two transcripts, which differ only at the 5' end, with approximate lengths of 4.1 kb and 3.9 kb encode the same protein. The longer transcript encodes the type II membrane-bound, trans-Golgi resident protein involved in glycoconjugate biosynthesis. The shorter transcript encodes a protein which is cleaved to form the soluble lactose synthase. [provided by RefSeq, Jul 2008]
UniProt Comments for GGTB2	B4GALT1: The Golgi complex form catalyzes the production of lactose in the lactating mammary gland and could also be responsible for the synthesis of complex-type N-linked oligosaccharides in many glycoproteins as well as the carbohydrate moieties of glycolipids. Defects in B4GALT1 are the cause of congenital disorder of glycosylation type 2D (CDG2D). CDGs are a family of severe inherited diseases caused by a defect in protein N- glycosylation. They are characterized by under-glycosylated serum proteins. These multisystem disorders present with a wide variety of clinical features, such as disorders of the nervous system development, psychomotor retardation, dysmorphic features, hypotonia, coagulation disorders, and immunodeficiency. The broad spectrum of features reflects the critical role of N-glycoproteins during embryonic development, differentiation, and maintenance of cell functions. Belongs to the glycosyltransferase 7 family. 2 isoforms of the human protein are produced by alternative initiation. Protein type: EC 2.4.1.90; EC 2.4.1.22; Cell adhesion; Membrane protein, integral; Carbohydrate Metabolism - galactose; Glycan Metabolism - glycosphingolipid biosynthesis - lacto and neolacto series; Cell development/differentiation; Motility/polarity/chemotaxis; EC 2.4.1.38; Glycan Metabolism - keratan sulfate biosynthesis; Glycan Metabolism - N-glycan biosynthesis; Cell surface; Transferase Chromosomal Location of Human Ortholog: 9p13 Cellular Component: glycocalyx; Golgi apparatus; desmosome; extracellular space; basolateral plasma membrane; brush border membrane; Golgi trans cisterna; integral to membrane; Golgi membrane; membrane; plasma membrane; external side of plasma membrane; filopodium Molecular Function: beta-N-acetylglucosaminylglycopeptide beta-1,4-galactosyltransferase activity; protein homodimerization activity; N-acetyllactosamine synthase activity; manganese ion binding; lactose synthase activity; cytoskeletal protein binding; beta-tubulin binding; UDP-galactosyltransferase activity; galactosyltransferase activity; alpha-tubulin binding Biological Process: keratan sulfate metabolic process; extracellular matrix organization and biogenesis; glycosaminoglycan metabolic process; positive regulation of epithelial cell proliferation involved in wound healing; oligosaccharide biosynthetic process; positive regulation of apoptosis involved in mammary gland involution; regulation of acrosome reaction; pathogenesis; lactose biosynthetic process; negative regulation of cell proliferation; development of secondary sexual characteristics; mammary gland development; single fertilization; epithelial cell development; penetration of zona pellucida; cell adhesion; Notch signaling pathway; binding of sperm to zona pellucida; protein amino acid N-linked glycosylation; regulation of cell motility; post-translational protein modification; angiogenesis involved in wound healing; multicellular organism reproduction; cellular protein metabolic process; branching morphogenesis of a tube; keratan sulfate biosynthetic process; carbohydrate metabolic process; galactose metabolic process; protein amino acid N-linked glycosylation via asparagine; leukocyte migration; acute inflammatory response Disease: Congenital Disorder Of Glycosylation, Type Iid
Research Articles on GGTB2	**1.** estrogen regulates the expression of B4GALT1 through the direct binding of ER-alpha to ERE; the expressed B4GALT1 plays a crucial role in the proliferation of MCF-7 cells through its activity as a membrane receptor.

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