

**PRODUCT INFORMATION**

<b>Target</b>	B4GALT1
<b>Synonyms</b>	GT1; GTB; CDG2D; GGTB2; CLDLFIB; B4GAL-T1; beta4Gal-T1
<b>Description</b>	Recombinant human B4GALT1 Protein with N-terminal 10×His tag
<b>Delivery</b>	In Stock
<b>Uniprot ID</b>	P15291
<b>Expression Host</b>	HEK293
<b>Tag</b>	N-10×His tag
<b>Molecular Characterization</b>	10×His tag B4GALT1(Arg45-Ser398)
<b>Molecular Weight</b>	The protein has a predicted molecular mass of 40.7 kDa after removal of the signal peptide.
<b>Purity</b>	The purity of the protein is greater than 85% as determined by SDS-PAGE and Coomassie blue staining.
<b>Formulation &amp; Reconstitution</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8% trehalose is added as protectants before lyophilization. Please see Certificate of Analysis for specific instructions of reconstitution.
<b>Storage&amp;Shipping</b>	Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.



**Background**

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]

**Usage**

Research use only

**Conjugate**

Unconjugated

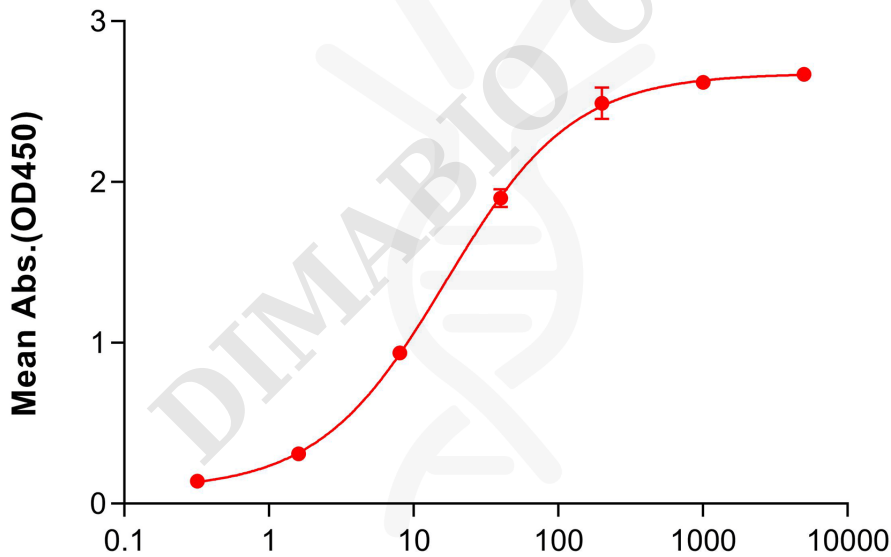




Figure 1. Human B4GALT1 Protein, His Tag on SDS-PAGE under reducing condition.

### Human B4GALT1, His Tagged Protein ELISA

0.2  $\mu$ g of Human B4GALT1, His tagged protein per well



### Anti-B4GALT1 antibody(DMC392), IgG1 Chimeric mAb (ng/mL)

Figure 2. ELISA plate pre-coated by 2  $\mu$ g/mL (100  $\mu$ L/well) Human B4GALT1 Protein, His Tag (PME101509) can bind Anti-B4GALT1 antibody(DMC392), IgG1 Chimeric mAb (DMC100392) in a linear range of 8.0-40 ng/mL.

