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Product datasheet for SC119205

B4GALT1 (NM_001497) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	B4GALT1 (NM_001497) Human Untagged Clone
Tag:	Tag Free
Symbol:	B4GALT1
Synonyms:	B4GAL-T1; beta4Gal-T1; CDG2D; GGTB2; GT1; GTB
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>OriGene ORF within SC119205 sequence for NM_001497 edited (data generated by NextGen Sequencing)

ATGAGGCTTCGGGAGCCGCTCCTGAGCGGCAGCGCCGCGATGCCAGGCGCGTCCCTACAG
CGGGCCTGCCGCCTGCTCGTGGCCGTCTGCGCTCTGCACCTTGGCGTCACCCTCGTTTAC
TACCTGGCTGGCCGCGACCTGAGCCGCCTGCCCCAACTGGTCGGAGTCTCCACACCGCTG
CAGGGCGGCTCGAACAGTGCCGCCGCCATCGGGCAGTCCTCCGGGGAGCTCCGGACCGGA
GGGGCCCGGCCGCCGCCTCCTCTAGGCGCCTCCTCCCAGCCGCGCCCGGGTGGCGACTCC
AGCCCAGTCGTGGATTCTGGCCCTGGCCCCGCTAGCAACTTGACCTCGGTCCCAGTGCCC
CACACCACCGCACTGTCGCTGCCCGCCTGCCCTGAGGAGTCCCCGCTGCTTGTGGGCCCC
ATGCTGATTGAGTTTAACATGCCTGTGGACCTGGAGCTCGTGGCAAAGCAGAACCCAAAT
GTGAAGATGGGCGGCCGCTATGCCCCCAGGGACTGCGTCTCTCCTCACAAGGTGGCCATC
ATCATTCCATTCCGCAACCGGCAGGAGCACCTCAAGTACTGGCTATATTATTTGCACCCA
GTCCTGCAGCGCCAGCAGCTGGACTATGGCATCTATGTTATCAACCAGGCGGGAGACACT
ATATTCAATCGTGCTAAGCTCCTCAATGTTGGCTTTCAAGAAGCCTTGAAGGACTATGAC
TACACCTGCTTTGTGTTTAGTGACGTGGACCTCATTCCAATGAATGACCATAATGCGTAC
AGGTGTTTTTCACAGCCACGGCACATTTCCGTTGCAATGGATAAGTTTGGATTCAGCCTA
CCTTATGTTCAGTATTTTGGAGGTGTCTCTGCTCTAAGTAAACAACAGTTTCTAACCATC
AATGGATTTCCTAATAATTATTGGGGCTGGGGAGGAGAAGATGATGACATTTTTAACAGA
TTAGTTTTTAGAGGCATGTCTATATCTCGCCCAAATGCTGTGGTCGGGAGGTGTCGCATG
ATCCGCCACTCAAGAGACAAGAAAAATGAACCCAATCCTCAGAGGTTTGACCGAATTGCA
CACACAAAGGAGACAATGCTCTCTGATGGTTTGAACTCACTCACCTACCAGGTGCTGGAT
GTACAGAGATACCCATTGTATACCCAAATCACAGTGGACATCGGGACACCGAGCTAG

Clone variation with respect to NM_001497.3

View online »

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_001497 unedited
AAAAACAACCAAAACAAAAAAAAAAAAAANNNCGTTGAGAATTGNAAACAACTCATATAGG
CGGCCGCGAAATTCGCACGAGGAAAGAGAGGCTTCGGGAGCCGCTCCTGAGCGGCAGCGC
CGCGATGCCAGGCGCGTCCCTACAGCGGGCCTGCCGCCTGCTCGTGGCCGTCTGCGCTCT
GCACCTTGGCGTCACCCTCGTTTACTACCTGGCTGGCCGCGACCTGAGCCGCCTGCCCCA
ACTGGTCGGAGTCTCCACACCGCTGCAGGGCGGCTCGAACAGTGCCGCCGCCATCGGGCA
GTCCTCCGGGGAGCTCCGGACCGGAGGGGCCCGGCCGCCGCCTCCTCTAGGCGCCTCCTC
CCAGCCGCGCCCGGGTGGCGACTCCAGCCCAGTCGTGGATTCTGGCCCTGGCCCCGCTAG
CAACTTGACCTCGGTCCCAGTGCCCCACACCACCGCACTGTCGCTGCCCGCCTGCCCTGA
GGAGTCCCCGCTGCTTGTGGGCCCCATGCTGATTGAGTTTAACATGCCTGTGGACCTGGA
GCTCGTGGCAAAGCAGAACCCAAATGTGAAGATGGGCGGCCGCTATGCCCCCAGGGACTG
CGTCTCTCCTCACCAGGTGGCCATCATCATTCCATTCCGCAACCGCACAGAGCACCTCAA
GTACTGGCTATATTAATTGGACCCAGTCCTGCAGCGCCAGCAGCTGGACTATGGCATCTA
TGTAATCAACCAGCCGGGAGACATATATTCAATCGTGCTAACCTCCTAATGGTTGCTTTT
AACAACCCTGAAAGACTATGACTACCCCTGCTTGTGTTTATGACCTGGACCCTATTCAAA
GAATGACTTAGGCCACCAAGTGTTTTTTAAAGCCACGCACATTTCCGTGCAAAGGAAAAG
TTGGATTCACCCACTTTAGGTCAAAATTTTGGAGGGGCTTTGTCTTAAGAAACACACAGT
T

3' Read Nucleotide Sequence:

>OriGene 3' genomic read for NM_001497 unedited
CNAAGTTCAGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
ACAAAGATAGGGGCATTTATTCACGTTATATTATTTAATTTTAAAGGCAAAAATACAGTT
CTGTTTTGAACACCAAGATCAGACACAGCCCCCTACACAATGGTAAATACACCCATTTGC
CTACCCCGGAATATCAAATACCAGCCCAACAAGTCTTTGGGGAATGAAAACCCCTCTTCC
TGGTCTTTGCAGAGCCCCGGCCCCTGGGATTCACAAAAACCCCTGTGCCGGCTGAAAGGC
AAGACAGATTTCCCTTTTTGTGCGGGGCCCCCTCTTGGCCCTCTGGTTTTTTCCAAAAGG
CCCTTTTCCACGGGTCCCCCGCCTTTGGGTTCCCCAAACCCCAAAGGGGCCGGGGACTAA
AAACTTTTGGGGGGTAATTCCCCAAAAAAAGAAAATGTTCCCGGAACCCCCCCCCCGGAA
ACCCCCGTGGGAAAAAAGAACACCCGGGTTTTTGGGGCCAAAAAAAATACCCGGCCCAAA
ATGGCCCCGGGGGTGCCTTTGGCCCCCGGGGCCCCCTAAAAACCCCCCTCCCAAAAGGGG
GGGAGAGAATTTTCCCCCGGGTGGATAAAAGAAACCCCCCTTTTGCCGGGGGGGGAGGGG
GGCCCCCAAAAAAAAAAATAAAAAAAAAACACCCCCCCAAGGGGGGGGGTGGTTTTATAA
AAAAAAAAAAAAACACCAGGGTTCTCCCCCCGGGGGGGTTTGGGGGGTGTTTTTTTGGGG
GGCTTTTGGAAAAAAACAGACGCTCTTGGCAAAAAA

Restriction Sites: NotI-NotI

ACCN: NM_001497

Insert Size: 4000 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:	1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	NM_001497.2, NP_001488.2
RefSeq Size:	4080 bp
RefSeq ORF:	1197 bp
Locus ID:	2683
UniProt ID:	P15291
Cytogenetics:	9p21.1
Domains:	Galactosyl_T_2
Protein Families:	Druggable Genome, Transmembrane
Protein Pathways:	Galactose metabolism, Glycosphingolipid biosynthesis - lacto and neolacto series, Keratan sulfate biosynthesis, Metabolic pathways, N-Glycan biosynthesis
Gene Summary:	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]