

Product datasheet for RC213879

B4GALT1 (NM_001497) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	B4GALT1 (NM_001497) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	B4GALT1
Synonyms:	B4GAL-T1; beta4Gal-T1; CDG2D; GGTB2; GT1; GTB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC213879 representing NM_001497 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGAGGCTTCGGGAGCCGCTCCTGAGCGGCAGCGCCGCGATGCCAGGCGCGTCCCTACAGCGGGCCTGCC
GCCTGCTCGTGGCCGTCTGCGCTCTGCACCTTGGCGTCACCTCGTTTACTACCTGGCTGGCCGCGACCT
GAGCCGCTGCCCAACTGGTCGGAGTCTCCACACCGCTGCAGGGCGGCTCGAACAGTGCCGCGCCATC
GGGCGAGTCTCCGGGAGCTCCGACCGGAGGGGCCCGCCGCGCTCCTCTAGGCGCCTCCTCCAGC
CGCGCCCGGGTGGCGACTCCAGCCAGTCTGGATTCTGGCCCTGGCCCCGCTAGCAACTGACCTCGGT
CCCAGTGCCCCACACCACCGCACTGTGCTGCCCGCTGCCCTGAGGAGTCCCCGCTGCTTGTGGGCCCC
ATGCTGATTGAGTTTAAACATGCCTGTGGACCTGGAGCTCGTGGCAAAGCAGAACCCTAATGTGAAGATGG
GCGGCCGCTATGCCCCAGGGACTGCGTCTCCTCACAAGGTGGCCATCATCATTCCATTCCGCAACCG
GCAGGAGCACCTCAAGTACTGGCTATATTTGCACCCAGTCTGCAGCGCCAGCAGCTGGACTATGGC
ATCTATGTTATCAACCAGGCGGGAGACACTATATTCATCGTGCTAAGCTCCTCAATGTTGGCTTCAAG
AAGCCTTGAAGGACTATGACTACACCTGCTTTGTGTTAGTGACGTGGACCTCATTCCAATGAATGACCA
TAATGCGTACAGGTGTTTTTACAGCCACGGCACATTTCCGTTGCAATGGATAAGTTTGGATTGAGCCTA
CCTTATGTTGAGTATTTGGAGGTGTCTGCTCTAAGTAAACAACAGTTTCTAACCATCAATGGATTTCT
CTAATAATTATTGGGCTGGGGAGGAGAAGATGATGACATTTTTAACAGATTAGTTTTTAGAGGCATGTC
TATATCTCGCCAAATGCTGTGGTCTGGGAGGTGTGCGATGATCCGCCACTCAAGAGACAAGAAAAATGAA
CCCAATCCTCAGAGTTTACCGAATTGCACACAAAAGGAGACAATGCTCTGATGGTTTGAACCTCAC
TCACCTACCAGGTGCTGGATGTACAGAGATACCCATTGTATACCCAAATCACAGTGGACATCGGGACACC
GAGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC213879 representing NM_001497
Red=Cloning site Green=Tags(s)

MRLREPLLSGSAAMPGASLQACRLLVAVCALHLGVTLVYYLAGRDL SRLPQLVGVSTPLQGGNSAAAI
 GQSSGELRTGGARPPPLGASSQPRPGDSSPVVDSGPGPASNLTSVPVPHHTALSLPACPEESPLL VGP
 MLIEFNMPVDLELVAKQNPVVKMGGRYAPRDCVSPHKVAIIIPFRNRQEHLYWLYLHPVLQRQLDYG
 IYVINQAGDTIFNRAKLLNVGFQEAL KDYDYTCFVFSDVDLIPMNDHNA YRCFSQPRHISVAMDKFGFSL
 PYVQYFGVYSALSKQQLTINGFPNNYWGWGEDDDIFNRLVFRGMSISRPNAVVGRCRMIRHSRDKKNE
 PNPQRFDRIAHTKETMLSDGLNSLTYQVLDVQRYPLYTQITVDIGTPS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6158_h01.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001497

ORF Size: 1194 bp

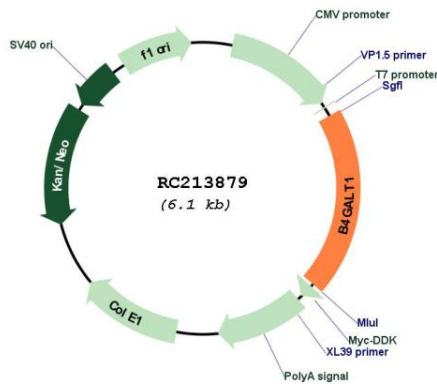
OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

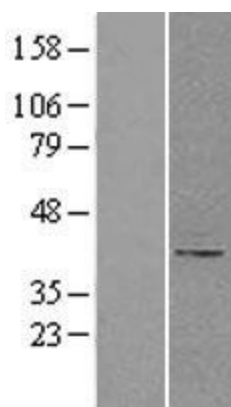
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none">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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_001497.4
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
MW:	43.7 kDa

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 $\text{UDP-galactose} + \text{D-glucose} \rightleftharpoons \text{UDP} + \text{lactose}$. 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]

Product images:


Circular map for RC213879



Western blot validation of overexpression lysate (Cat# [LY400575]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC213879 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).