

Product datasheet for **MC221248**

Mgat5 (NM_145128) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mgat5 (NM_145128) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Mgat5
Synonyms:	4930471A21Rik; 5330407H02Rik; A1480971; GlcNAc-TV
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >MC221248 representing NM_145128
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCTTCTTTTCTCCCTGGAAGTGTCTCTCAGAAGCTGGGCTTTTTCTGGTGACTTTCGGCTTCA
 TCTGGGCATGATGCTTCTGCACTTCACCATCCAGCAGCGGACTCAGCCCGAGAGCAGCTCCATGTTACG
 GGAGCAGATCCTTGACCTCAGCAAGAGGTACATTAAGGCACTGGCAGAGGAGAACAGGGACGTGGTGGAT
 GGCCCTACGCTGGTGTGATGACAGCCTATGATCTGAAGAAAACGCTCGCCGTCTTGCTGGATAACATCC
 TGCAGCGCATTGGCAAGCTCGAGTCAAAGGTGGACAATCTGGTCAACGGCACAGGAGCGAACTCCACCAA
 CTCCACCACGGCTGTCCCAGCTTGGTGTGCTTGAGAAAATTAATGTGGCAGATATCATTAATGGAGTT
 CAGGAAAAATGTGATTGCCTCTATGGATGGTACCCCCACTGCGAGGGGAAAAATCAAGTGGATGAAGG
 ACATGTGGCGCTCGGACCCTGCTACGCAGACTATGGAGTGGACGGGACCTCCTGCTCTTTTTTATTTA
 CCTCAGTGAGGTTGAAAATTGGTGTCTCGTTTACCTTGAGAGCAAAAAATCCCTATGAAGAAGCTGAT
 CATAACTCATTGGCGGAAATCCGTACGGATTTAACATTCTCTACGGCATGATGAAGAAGCACGAGGAGT
 TCCGTTGGATGAGGCTTCGGATCCGGCGAATGGCTGACCGGTGGATCCAAGTATCAAGTCTCTGGCGGA
 GAAACAAAACCTTGAGAAGAGGAAACGGGAAGAAAATCCTTGTTACCTGGGGCTCCTGACCAAGGAATCG
 GGCTTCAAGATTGCGGAGACAGCATTACGCGGTGGCCCTCTGGGTGAACCTCGTTCAGTGGAGTGACTTAA
 TCACATCTCTGTACCTGCTGGCCATGACATCCGGATCTCGGCCCTCACTGGTGAGCTCAAGGAGATAAT
 GAAGAAGGTTGTTGGAACCGGTCTGGCTGTCCAATGTAGGAGACAGAATCGTTGAGCTGATTTATATC
 GATATTGTGGGACTTGCTCAATTAAGAAAACACTAGGGCCATCCTGGGTTTATTACCAGTGCATGCTCC
 GGGTGTAGACTCCTTTGGAACAGAAGCTGAGTTCAATCATGCGAGCTATGCCAGTCAAAGGCCACAA
 GACCCCTGGGAAAGTGAATCTGAACCCGCAGCAGTTTTACCCATGTTCCCTCATACCCAGACAAAC
 AGCTTTCTGGGCTTCGTGGTGGAGCAGCACCTGAACTCCAGCGACATTACCACATCAACGAGATCAAAA
 GGCAGAACCAGTCCCTTGTGTATGGCAAAGTGATAGTTTCTGGAAGAATAAGAAAATCTACCTGGATAT
 CATTACACGTACATGGAAGTGCACGCCACTGTTTATGGCTCCAGTACCAAGAACATTCCCAGTTACGTG
 AAAAACCATGGCATTCTCAGTGGACGTGACCTGCAGTTTCTTCTCCGGAAACCAAGCTGTTCTGTTGGG
 TCGGATCCCTTATGAAGGCCAGTCCCCTGGAGGCCATCGCGAATGGATGTGCTTTCCTGAACCCCAA
 GTTCAACCCTCCAAAAGCAGCAAAAACACAGACTTCTTATTGGCAAGCCAACACTGAGAGAGCTGACA
 TCCCAGCATCCTTACGCAGAAGTCTTATCGGCCGGCCACACGCTGGACTGTGGATCTCAATAACCGAG
 AGGAAGTAGAAGATGCAGTAAAAGCCATCTTAAACCAGAAGATTGAGCCGTATATGCCATATGAGTTCAC
 ATGTGAAGGCATGCTGCAGAGAATCAACGCTTTCATTGAAAAACAGGACTTCTGCCATGGCCAAGTGATG
 TGGCCGCCCTCAGCGCCCTGCAGGTGAAGCTGGCTGAGCCAGGGCAGTCTGCAAAACAGGTGTGCCAGG
 AGAGCCAGCTCATCTGCGAGCCTTCTTCTTCAACACCTCAACAAGGAAAAGGACCTGCTGAAGTATAA
 GGTGACCTGCCAAAGCTCAGAAGTGTACAAGGACATCCTGGTGCCTCCTTCTACCCCAAGAGCAAGCAC
 TGTGTGTTCCAAGGGACCTCCTGCTTTCAGTTGTGCCGGAGCCACCCACACACCAGCGGATCTGCC
 CCTGCCGGACTTCATCAAGGGCCAAGTGGCCCTCTGCAAAGACTGCCTA**TAG**

AG**GCGACCG**ACGCGTACGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-RsrII

ACCN: NM_145128

Insert Size: 2223 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:	<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.
RefSeq:	<u>NM_145128.3, NP_660110.2</u>
RefSeq Size:	3104 bp
RefSeq ORF:	2223 bp
Locus ID:	107895
UniProt ID:	<u>Q8R4G6</u>
Cytogenetics:	1 E3
Gene Summary:	Catalyzes the addition of N-acetylglucosamine (GlcNAc) in beta 1-6 linkage to the alpha-linked mannose of biantennary N-linked oligosaccharides (PubMed:10700233, PubMed:14561752, PubMed:22715095). Catalyzes an important step in the biosynthesis of branched, complex-type N-glycans, such as those found on EGFR, TGFR (TGF-beta receptor) and CDH2 (PubMed:12122020, PubMed:10700233, PubMed:14561752, PubMed:15459394, PubMed:22715095). Via its role in the biosynthesis of complex N-glycans, plays an important role in the activation of cellular signaling pathways, reorganization of the actin cytoskeleton, cell-cell adhesion and cell migration (PubMed:10700233, PubMed:14561752, PubMed:15459394). MGAT5-dependent EGFR N-glycosylation enhances the interaction between EGFR and LGALS3 and thereby prevents rapid EGFR endocytosis and prolongs EGFR signaling (PubMed:15459394). Required for efficient interaction between TGFB1 and its receptor (PubMed:15459394). Enhances activation of intracellular signaling pathways by several types of growth factors, including FGF2, PDGF, IGF, TGFB1 and EGF (PubMed:15459394). MGAT5-dependent CDH2 N-glycosylation inhibits CDH2-mediated homotypic cell-cell adhesion and contributes to the regulation of downstream signaling pathways (PubMed:14561752). Promotes cell migration (PubMed:14561752, PubMed:15459394). Contributes to the regulation of the inflammatory response (PubMed:11217864, PubMed:15459394). MGAT5-dependent TCR N-glycosylation enhances the interaction between TCR and LGALS3, limits agonist-induced TCR clustering, and thereby dampens TCR-mediated responses to antigens (PubMed:11217864). Required for normal leukocyte evasion and accumulation at sites of inflammation (PubMed:15459394). Inhibits attachment of monocytes to the vascular endothelium and subsequent monocyte diapedesis (By similarity).[UniProtKB/Swiss-Prot Function]