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Product datasheet for MG217123

Mgat5 (NM_145128) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mgat5 (NM_145128) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Mgat5
Synonyms:	4930471A21Rik; 5330407H02Rik; AI480971; GlcNAc-TV
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

View online »

ORF Nucleotide Sequence:

>MG217123 representing NM_145128
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCTTTCTTTTCTCCCTGGAAGTTGTCCTCTCAGAAGCTGGGCTTTTTCCTGGTGACTTTCGGCTTCA
TCTGGGGCATGATGCTTCTGCACTTCACCATCCAGCAGCGGACTCAGCCCGAGAGCAGCTCCATGTTACG
GGAGCAGATCCTTGACCTCAGCAAGAGGTACATTAAGGCACTGGCAGAGGAGAACAGGGACGTGGTGGAT
GGCCCCTACGCTGGTGTCATGACAGCCTATGATCTGAAGAAAACGCTCGCCGTCTTGCTGGATAACATCC
TGCAGCGCATTGGCAAGCTCGAGTCAAAGGTGGACAATCTGGTCAACGGCACAGGAGCGAACTCCACCAA
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CAGGAAAAATGTGTATTGCCTCCTATGGATGGCTACCCCCACTGCGAGGGGAAAATCAAGTGGATGAAGG
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CCTCAGTGAGGTTGAAAATTGGTGTCCTCGTTTACCTTGGAGAGCAAAAAATCCCTATGAAGAAGCTGAT
CATAACTCATTGGCGGAAATCCGTACGGATTTTAACATTCTCTACGGCATGATGAAGAAGCACGAGGAGT
TCCGTTGGATGAGGCTTCGGATCCGGCGAATGGCTGACGCGTGGATCCAAGCTATCAAGTCTCTGGCGGA
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TGTGTGTTCCAAGGGGACCTCCTGCTCTTCAGTTGTGCCGGAGCCCACCCCACACACCAGCGGATCTGCC
CCTGCCGGGACTTCATCAAGGGCCAAGTGGCCCTCTGCAAAGACTGCCTA

AGCGGACCGACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

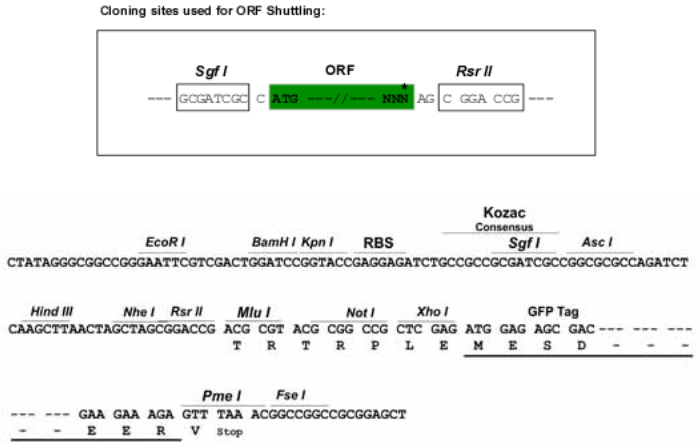
>MG217123 representing NM_145128
Red=Cloning site Green=Tags(s)

MAFFSPWKLSSQKLGFFLVTFGFIWGMMLLHFTIQQRTQPESSSMLREQILDLSKRYIKALAEENRDVVD
GPYAGVMTAYDLKKTLAVLLDNILQRIGKLESKVDNLVNGTGANSTNSTTAVPSLVSLEKINVADIINGV
QEKCVLPPMDGYPHCEGKIKWMKDMWRSDPCYADYGVDGTSCSFFIYLSEVENWCPRLPWRAKNPYEEAD
HNSLAEIRTDFNILYGMMKKHEEFRWMRLRIRRMADAWIQAIKSLAEKQNLEKRKRKKILVHLGLLTKES
GFKIAETAFSGGPLGELVQWSDLITSLYLLGHDIRISASLAELKEIMKKVVGNRSGCPTVGDRIVELIYI
DIVGLAQFKKTLGPSWVHYQCMLRVLDSFGTEPEFNHASYAQSKGHKTPWGKWNLNPQQFYTMFPHTPDN
SFLGFVVEQHLNSSDIHHINEIKRQNQSLVYGKVDSFWKNKKIYLDIIHTYMEVHATVYGSSTKNIPSYV
KNHGILSGRDLQFLLRETKLFVGLGFPYEGPAPLEAIANGCAFLNPKFNPPKSSKNTDFFIGKPTLRELT
SQHPYAEVFIGRPHVWTVDLNNREEVEDAVKAILNQKIEPYMPYEFTCEGMLQRINAFIEKQDFCHGQVM
WPPLSALQVKLAEPGQSCKQVCQESQLICEPSFFQHLNKEKDLLKYKVTCQSSELYKDILVPSFYPKSKH
CVFQGDLLLFSCAGAHPTHQRICPCRDFIKGQVALCKDCL

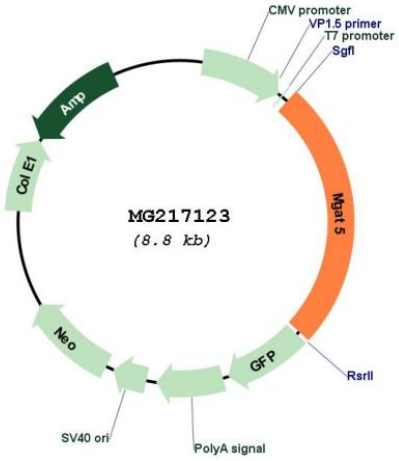
SGPTRTRRLE – GFP Tag – V

Restriction Sites: SgfI-RsrII

Cloning Scheme:



Plasmid Map:



ACCN:	NM_145128
ORF Size:	2220 bp
OTI Disclaimer:	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:	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_145128.3, NP_660110.2
RefSeq Size:	3104 bp
RefSeq ORF:	2223 bp
Locus ID:	107895

UniProt ID: Q8R4G6

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 evasation 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]