

Product datasheet for **MG211521**

Ogt (NM_139144) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ogt (NM_139144) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Ogt
Synonyms:	1110038P24Rik; 4831420N21Rik; AI115525; Ogtl
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG211521 representing NM_139144 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCGTCTTCCGTGGCAACGTGGCCGACAGTACAGAACCAACGAAACGTATGCTTTCCTTCCAAGGGT
TAGCTGAGTTGGCACATCGAGAATATCAGGCAGGAGATTTGAGGCAGCTGAGAGACTGCATGCAGCT
CTGGAGACAAGAGCCTGACAATACTGGTGTCTTTTATTACTTTCATCTATACACTTCCAGTGTGCAAGG
CTGGACAGATCTGCTCATTTTAGCACCTTGCCAATTAACAGAATCCCCTTCTAGCAGAAGCCTATTCGA
ATTTGGGAAATGTGTACAAGGAAAGAGGGCAGTTGCAGGAAGCAATCGAGCATTATCGACATGCCTTGCG
GCTGAAGCCTGATTTTCATTGATGTTATATTAACCTGGCAGCAGCCTTGGTAGCAGCAGGTGACATGGAA
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GAACTGCTCAAAGCCCTGGTTCGCTTGAAGAAGCCAAGGCATGTTATTTGAAAGCAATTGAGACGCA
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TCATGCGGTGGTGCACGGCAACCTGGCTTGTGTGTACTACGAGCAAGGCCTAATAGACCTGGCCATTGAT
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AGTATTGTAGCTGAGCAGCTAGAGAAGAATAGACTGCCTTCTGTCCATCCTCACCATAGCATGCTGTACC
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GCCCTCTGTTCAACACCAACAATACACAATGGAATTAGAGCGACTTTATCTGCAGATGTGGGAGCATT
TGCAGCTGGCAACAACCTGACCACATGATTAAGCCTGTTGAAGTCACCGAGTCAGCC
    
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ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG211521 representing NM_139144
 Red=Cloning site Green=Tags(s)

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MASSVGNVADSTEPTKRMLSFQGLAELAHREYQAGDFEAAERHQMQLWRQEPDNTGVLLLLSSIHQCRRL
LDRSAHFSTLAIKQNPLLAEAYSNLGNVYKERGQLQEAI EHYRHRLRKPDIIDGYINLAAALVAAGDME
GAVQAYVSALQYNPDLYCVRSDLGNLLKALGRLEEAKACYLKA IETQPNFAVAWSNLGCVFNAQGEIWL
IHHFEKAVTLDPNFLDAYINLGNVLKEARIFDRAVAAYLRALSLSPNHAVVHGNLACVYYEQGLIDLAID
TYRRAIELQPHFPDAYCNLANALKEKGSVAEAEDCYNTALRLCPTHADSLNLANIKREQNIEEAVRLY
RKALEVFPEFAAHSNLASVLQQQKQLQEALMHYKEAIRISPTFADAYSNMGNLTKEMQDVQALQCYTR
AIQINPAFADAHSNLASIHKDSGNIPEAIASYRTALKLKPDPDAYCNLAHCLQIVCDWTDYDERMKKL
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DGIHILVNMNGYTKGARNELFALRPAPIQAMWLGYPGTSALFMDYIITDQETSPA EVAEQYSEKLA YMP
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AIVYCNFNQLYKIDPSTLQMWANILKRVPNVSWLLRFPVAVGEPNIQYQAQNMGLPQNRIIFSPVAPKEE
HVRRGQLADVCLDTPLCNGHTTGMDVWAGTPMVTMPGETLASRVAASQLTCLGCLELIAKSRQEYEDIA
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TRTRPLE - GFP Tag - V

Restriction Sites:

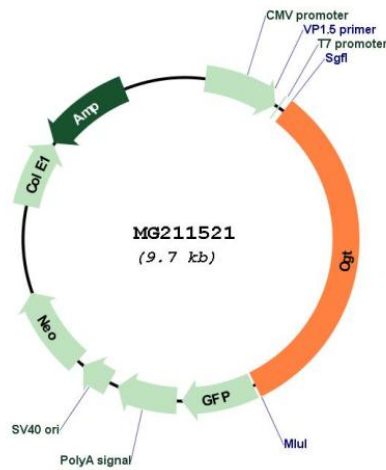
Sgfl-Mlul

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_139144

ORF Size: 3138 bp

OTI Disclaimer:	<p>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.</p> <p>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</p>
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.
RefSeq:	NM_139144.4 , NP_631883.2
RefSeq Size:	5384 bp
RefSeq ORF:	3141 bp
Locus ID:	108155
UniProt ID:	Q8CGY8
Cytogenetics:	X D

Gene Summary:

Catalyzes the transfer of a single N-acetylglucosamine from UDP-GlcNAc to a serine or threonine residue in cytoplasmic and nuclear proteins resulting in their modification with a beta-linked N-acetylglucosamine (O-GlcNAc) (PubMed:29465778). Glycosylates a large and diverse number of proteins including histone H2B, AKT1, EZH2, PFKL, KMT2E/MLL5, MAPT/TAU and HCFC1. Can regulate their cellular processes via cross-talk between glycosylation and phosphorylation or by affecting proteolytic processing. Probably by glycosylating KMT2E/MLL5, stabilizes KMT2E/MLL5 by preventing its ubiquitination (By similarity). Involved in insulin resistance in muscle and adipocyte cells via glycosylating insulin signaling components and inhibiting the 'Thr-308' phosphorylation of AKT1, enhancing IRS1 phosphorylation and attenuating insulin signaling (By similarity). Involved in glycolysis regulation by mediating glycosylation of 6-phosphofructokinase PFKL, inhibiting its activity. Component of a THAP1/THAP3-HCFC1-OGT complex that is required for the regulation of the transcriptional activity of RRM1. Plays a key role in chromatin structure by mediating O-GlcNAcylation of 'Ser-112' of histone H2B: recruited to CpG-rich transcription start sites of active genes via its interaction with TET proteins (TET1, TET2 or TET3). As part of the NSL complex indirectly involved in acetylation of nucleosomal histone H4 on several lysine residues. O-GlcNAcylation of 'Ser-75' of EZH2 increases its stability, and facilitating the formation of H3K27me3 by the PRC2/EED-EZH2 complex (By similarity). Regulates circadian oscillation of the clock genes and glucose homeostasis in the liver. Stabilizes clock proteins ARNTL/BMAL1 and CLOCK through O-glycosylation, which prevents their ubiquitination and subsequent degradation. Promotes the CLOCK-ARNTL/BMAL1-mediated transcription of genes in the negative loop of the circadian clock such as PER1/2 and CRY1/2 (PubMed:23337503, PubMed:23395176). O-glycosylates HCFC1 and regulates its proteolytic processing and transcriptional activity (By similarity). Regulates mitochondrial motility in neurons by mediating glycosylation of TRAK1 (By similarity). Glycosylates HOXA1 (PubMed:29465778).[UniProtKB/Swiss-Prot Function]