

## Product datasheet for MR211521

### Ogt (NM\_139144) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Ogt (NM_139144) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Ogt
Synonyms:	1110038P24Rik; 4831420N21Rik; AI115525; Ogtl
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR211521 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCGTCTTCCGTGGCAACGTGGCCGACAGTACAGAACCAACGAAACGTATGCTTTCCTTCCAAGGGT  
TAGCTGAGTTGGCACATCGAGAATATCAGGCAGGAGATTTGAGGCAGCTGAGAGACACTGCATGCAGCT  
CTGGAGACAAGAGCCTGACAATACTGGTGTCTTTTATTACTTTCATCTATACACTTCCAGTGTCGAAGG  
CTGGACAGATCTGCTCATTTTAGCACCTTGCCAATTAACAGAATCCCCTTCTAGCAGAAGCCTATTGCA  
ATTTGGGAAATGTGTACAAGGAAAGAGGGCAGTTGCAGGAAGCAATCGAGCATTATCGACATGCCTTGCG  
GCTGAAGCCTGATTTTCATTGATGTTATATTAACCTGGCAGCAGCCTTGGTAGCAGCAGGTGACATGGAA  
GGAGCAGTACAAGCCTATGTCTCTGCTCTTCAGTACAATCCTGATTTGTACTGTGTTGCGCAGTGACCTGG  
GAAACCTGCTCAAAGCCCTGGGTGCTTGGGAAGGCCAAGGCATGTTATTTGAAAGCAATTGAGACGCA  
ACCAAACCTTTCAGTAGCCTGGAGTAATCTCGGCTGTGTTTTCAATGCACAAGGGGAGATTTGGCTGGCT  
ATTCATCACTTTGAAAAGGCTGTCACCCTTGACCCAAATTTCTGGATGCTTATATCAATTTAGGAAATG  
TCTTGAAGAGGCACGCATTTTGTACAGAGCTGTCGCAGCTTATCTTCGTGCCTAAGTTGAGCCCAA  
TCATGCGGTGGTGCACGGCAACCTGGCTTGTGTGACTACGAGCAAGGCCTAATAGACCTGGCCATTGAT  
ACCTACAGGAGAGCTATCGAACTGCAACCCATTTCCCGATGCTTACTGCAACCTAGCAAAATGCTCTCA  
AAGAGAAGGGCAGTGTTGCTGAAGCAGAAGATTGTTATAACACAGCTTTCGTCTGTGCTCTACTCATGC  
AGACTCTTTGAATAACCTTGCCAACATCAAACGGGAACAGGGCAACATTGAAGAGGCAGTTGCGCTGTAT  
CGCAAAGCATTAGAAGTCTTCCAGAGTTTGTGCTGCACATTCCAATTTAGCAAGTGTACTGCAACAGC  
AGGGCAAGCTGCAGGAAGCACTGATGCACTATAAAGAAGCCATACGAATTAGCTTACATTTGCTGATGC  
TTATTCCAATATGGAAACACTTAAAGGAGATGCAGGATGTGCAGGGCGCTTTCAGTGTATACTCGT  
GCCATCCAGATTAATCCTGCCTTTGCTGATGCACACAGCAATCTGGCCTCCATTACAAGGATTCAGGGA  
ATATCCAGAAGCAATAGCTTCTTACCGCACAGCTCTGAACTTAAGCCTGACTTTCCTGATGCTTATTG  
TAACCTGGCTCATTGCCTACAGATTGTCTGTGATTGGACAGACTATGATGAGCGGATGAAGAAATGGTT



```

AGTATTGTAGCTGAGCAGCTAGAGAAGAATAGACTGCCTTCTGTCCATCCTCACCATAGCATGCTGTACC
CTCTTTCCCATGGCTTCAGGAAGGCTATTGCAGAGAGGCATGGGAATCTCTGCTTGGATAAGATTAATGT
CCTTCATAAACCACCATATGAACATCCAAAAGACTTGAAGCTCAGTGATGGCCGATTGCGTGTAGGCTAT
GTGAGTTCTGACTTCGGGAATCACCCCTACTTCACACCTTATGCAGTCTATTCCAGGCATGCATAATCCTG
ATAAGTTTGAGGTATTCTGCTATGCCTTGAGCCCGGATGATGGTACAACTTTTCGAGTGAAGGTGATGGC
GGAAGCCAATCATTTTCATTGATCTTTCTCAGATTCCTTGAATGGAAAAGCAGCCGACCCATCCACCAA
GATGGAATTCACATCCTTGTGAATATGAATGGGTATACCAAGGGTCTCGGAATGAGCTCTTTGCTCTTA
GGCCAGCTCCTATTTCAGGCCATGTGGCTGGCTACCCTGGGACTAGTGGTGCACCTGTTTCATGGATTACAT
CATCACTGATCAGGAACTTCCCCAGCTGAAGTTGCAGAGCAGTATTCTGAGAACTGGCTTATATGCC
CATACTTTCTTTATTGGTGATCATGCTAATATGTTCCCTCACCTGAAGAAAAAGCAGTCATCGATTTTA
AATCCAATGGGCACATTTATGATAATCGGATAGTTCTGAATGGCATCGATCTCAAAGCATTTCTCGATAG
CCTACCCGATGTGAAGATTGTCAAGATGAAATGTCCTGATGGAGGTGACAATCCAGACAGCAGTAACACA
GCTCTTAATATGCCCGTTATTCCCATGAATACGATTGCAGAAGCAGTAATTGAAATGATTAACAGAGGGC
AGATTCAGATAACAATTAACGGATTGAGTATTAGCAATGGACTGGCGACTACACAGATTAATAATAAGGC
TGCAACCCGAGAGGAAGTCCCCGTACCATTATTGTAACCACCCGTTCCAGTATGGGCTACCAGAAGAT
GCCATTGTGACTGTAACTTAATCAGTTATATAAAATTGACCCATCTACCTGCAGATGTGGGCAATA
TTCTGAAACGTGTGCCTAACAGCGTGCTTTGGCTGTTGCGTTTTCCAGCAGTAGGAGAACCCAATATTCA
ACAATATGCACAAAAATGGGCCTTCCCGAGAACCGTATCATTCTCACCTGTGGCTCCTAAAGAGGAG
CATGTCAGGAGAGGTCAGCTGGCTGATGCTGCCTGGATACTCCTTTGTGTAATGGACACACCACAGGGA
TGGATGTTCTCTGGGCAGGAACCCCATGGTGACTATGCCAGGAGAGACTCTTGCTCTCGAGTTGCAGC
TTCTCAGCTTACTTGTCTAGGATGTCTCGAGCTCATTGCTAAAAGCAGACAGGAATATGAAGACATAGCT
GTGAACTGGGAACCGATCTAGAATACCTGAAGAAAATTCGTGGCAAAGTCTGGAACAGAGAATATCTA
GCCCTCTGTTCAACACCAAAACAATACACAATGGAATTAGAGCGACTTTATCTGCAGATGTGGGAGCATT
TGCAGCTGGCAACAACTGACCACATGATTAAGCCTGTTGAAGTCACCGAGTCAGCC

```

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR211521 protein sequence  
Red=Cloning site Green=Tags(s)

```

MASSVGNVADSTEPTKRMLSFQGLAELAHREYQAGDFEAAERHQMQLWRQEPDNTGVLLLLSSIHFCRR
LDRSAHFSTLAIKQNPLLAEAYSNLGNVYKERGQLQEAIEHYRHALRLKPDFIDGYINLAAALVAAGDME
GAVQAYVSALQYNPDLYCVRSDLGNLLKALGRLEEAKACYLKA IETQPNFAVAWSNLGCVFNAQGEIWL
IHHFEKAVTLDPNFLDAYINLGNVLKEARIFDRAVAAYLRALSLSPNHAVVHGNLACVYYEQGLIDLAID
TYRRAIELQPHFPDAYCNLANALKEKGSVAEAEDCYNTALRLCPHADSLNLANIKREQNIEEAVRLY
RKALEVFPEFAAHSNLASVLQQQGLQEALMHYKEAIRISPTFADAYSNMGNLTKEMQDVQALQCYTR
AIQINPAFADAHSNLASIHKDSGNIPEIASYRTALKLKPDPDAYCNLAHCLQIVCDWTDYDERMKKL
SIVAEQLEKNRPLSVHPHSMYPLSHGFRKAI AERHGNCCLDKINVLHKPPYEHKDLKLSDGRLRVGY
VSSDFGNHPTSHLMQSIIPGMHNPDKFEVFCYALSPDDGTNFRVKVMAEANHFIIDLSPICNGKAADRIHQ
DGIHILVNMNGYTKGARNELFALRPAPIQAMWLGYPGTSALFMDYIITDQETSPAEEVQSEKLAAMP
HTFFIGDHANMFPHLKKKAVIDFKSNGHIYDNRIVLNGIDLKAFDLSLPDVKIVKMKCPDGGDNPSSNT
ALNMPVIPMNTIAEAVIEMINRQIQITINGFISISNGLATTQINNKAATGEEVPRTIIVTTRSQYGLPED
AIVYCNFNQLYKIDPSTLQMWANILKRVPNVSVLWLLRFPVAVGEPNIQYQAQNMGLPQNRIIFSPVAPKEE
HVRRLQADVCLDTPLCNGHTTGMDVLWAGTPMVTMPGETLASRVAASQLTCLGCLELIAKSRQYEDIA
VKLGTDLLEYLKKIRGKVVQKRISPLFNTKQYTMELERLYLQMWHEYAAGNPKPDHMIKPEVETESA

```

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

Cloning Scheme:



ACCN: NM\_139144

ORF Size: 3141 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](mailto: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:**

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:** 5415 bp

**RefSeq ORF:** 3141 bp

**Locus ID:** 108155

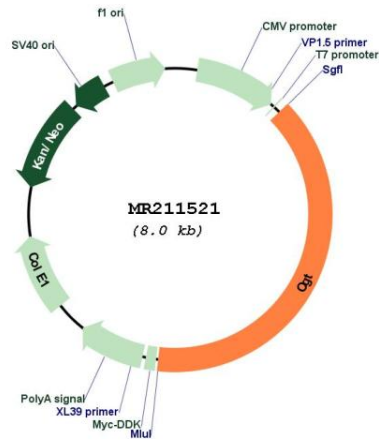
**UniProt ID:** [Q8CGY8](#)

**Cytogenetics:** X D

**MW:** 117 kDa

**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]

Product images:



Circular map for MR211521