

Product datasheet for MC229301

Ogt (NM_001290535) Mouse Untagged Clone

Product data:

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| Product Type: | Expression Plasmids |
| Product Name: | Ogt (NM_001290535) Mouse Untagged Clone |
| Tag: | Tag Free |
| Symbol: | Ogt |
| Synonyms: | 1110038P24Rik; 4831420N21Rik; A1115525; Ogtl |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |
| Cell Selection: | Neomycin |
| Fully Sequenced ORF: | >MC229301 representing NM_001290535 Red=Cloning site Blue=ORF Orange=Stop codon |

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGTCTTCCGTGGGCAACGTGGCCGACGTACAGGGTTAGCTGAGTTGGCACATCGAGAATATCAGG
CAGGAGATTTGAGGCAGCTGAGAGACTGCATGCAGCTCTGGAGACAAGAGCCTGACAATACTGGTGT
TCTTTTACTTTCATCTATACACTTCCAGTGTGGAAGCTGGACAGATCTGCTCATTTAGCACCTTG
GCAATTAACAGAATCCCCTTCTAGCAGAAGCCTATTCGAATTTGGGAAATGTGTACAAGGAAAGAGGGC
AGTTGCAGGAAGCAATCGAGCATTATCGACATGCCTTGGCGGTGAAGCCTGATTCATTGATGGTTATAT
TAACCTGGCAGCAGCCTTGGTAGCAGCAGGTGACATGGAAGGAGCAGTACAAGCCTATGTCTGTCTCTT
CAGTACAATCCTGATTTGTACTGTGTCGAGTGACCTGGGGAACCTGCTCAAAGCCCTGGTCCGCTTGG
AAGAAGCCAAGGCATGTTATTTGAAAGCAATTGAGACGCAACCAAACCTTTCAGTAGCCTGGAGTAATCT
CGGCTGTGTTTTCAATGCACAAGGGGAGATTTGGCTGGCTATTCATCACTTTGAAAAGGCTGTCACCCTT
GACCCAAATTTCTGGATGCTTATCAATTTAGGAAATGTCTTGAAGAGGCACGCATTTTTGACAGAG
CTGTCGACAGTTATCTTCGTGCCTTAAGTTTGGCCAAATCATGCGGTGGTGCACGGCAACCTGGCTTG
TGTGACTACGAGCAAGCCTAATAGACCTGGCCATTGATACCTACAGGAGAGCTATCGAACTGCAACCC
CATTTCCCGATGCTTACTGCAACCTAGCAAATGCTCTCAAAGAGAAGGGCAGTGTGCTGAAGCAGAAG
ATTGTTATAACACAGCTCTTCGCTGTGTCTACTCATGCAGACTCTTTGAATAACCTTGCCAACATCAA
ACGGGAACAGGGCAACATTGAAGAGGCAGTTCGCCTGTATCGAAAGCATTAGAAGTCTTCCAGAGTTT
GCTGCTGCACATTCGAATTTAGCAAGTGTACTGCAACAGCAGGGCAAGCTGCAGGAAGCACTGATGCACT
ATAAAGAAGCCATACGAATTAGTCTACATTTGCTGATGCTTATCCAATATGGGAAACACTCTAAAGGA
GATGCAGGATGTGCAGGGCGCTTTCAGTGTATACTCGTGCCATCCAGATTAATCCTGCCTTTGCTGAT
GCACACAGCAATCTGGCCTCCATTCACAAGGATTCAGGGAATATCCAGAAGCAATAGCTTCTTACC
CAGCTCTGAAACTTAAGCCTGACTTTCCCTGATGCTTATTGTAACCTGGCTCATTGCCTACAGATTGCTG
TGATTGGACAGACTATGATGAGCGGATGAAGAAATTTGGTTAGTATTGTAGCTGAGCAGCTAGAGAAGAAT
AGACTGCCTTCTGTCCATCCTCACCATAGCATGCTGTACCCTCTTTCCATGGCTTCAGGAAGGCTATTG



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CAGAGAGGCATGGGAATCTCTGCTTGGATAAGATTAATGTCCTTCATAAACCCACCATATGAACATCCAAA
 AGACTTGAAGCTCAGTGATGGCCGATTGCGTGTAGGCTATGTGAGTTCTGACTTCGGGAATCACCCTACT
 TCACACCTTATGCAGTCTATTCCAGGCATGCATAATCCTGATAAGTTTGAGGTATTCTGCTATGCCTTGA
 GCCCGGATGATGGTACAAACTTTCGAGTGAAGGTGATGGCGGAAGCCAATCATTTTCATTGATCTTTCTCA
 GATTCCTTGTAAATGGAAGCAGCCGACCCGATCCACCAAGATGGAATTCACATCCTTGTGAATATGAAT
 GGGTATACCAAGGGTCTCGGAATGAGCTCTTTGCTCTTAGGCCAGCTCCTATTCAGGCCATGTGGCTGG
 GCTACCCTGGGACTAGTGGTGCCTGTTTCATGGATTACATCATCACTGATCAGGAACTTCCCAGCTGA
 AGTTGCAGAGCAGTATTCTGAGAACTGGCTTATATGCCCATACTTTCTTTATTGGTGATCATGCTAAT
 ATGTTCCCTCACCTGAAGAAAAAGCAGTCATCGATTTTAAATCCAATGGGCACATTTATGATAATCGGA
 TAGTTCTGAATGGCATCGATCTCAAAGCATTTCTCGATAGCCTACCCGATGTGAAGATTGTCAAGATGAA
 ATGTCCTGATGGAGGTGACAATCCAGACAGCAGTAACACAGCTCTTAATATGCCCGTTATTTCCCATGAAT
 ACGATTGCAGAAGCAGTAATTGAAATGATTAACAGAGGGCAGATTCAGATAACAATTAACGGATTTCAGTA
 TTAGCAATGGACTGGCGACTACACAGATTAATAATAAGGCTGCAACCGGAGAGGAAGTTCCCGTACCAT
 TATTGTAACCACCGTTCCAGTATGGGCTACCAGAAGATGCCATTGTGTACTGTAACCTTTAATCAGTTA
 TATAAAATTGACCATCTACCCTGCAGATGTGGGCAAATATTCTGAAACGTGTGCCTAACAGCGTGTCTT
 GGCTGTTGCGTTTTCCAGCAGTAGGAGAACCCAATATTCAACAATATGCACAAAATATGGGCCTTCCCCA
 GAACCGTATCATTTTCTCACCTGTGGCTCCTAAAGAGGAGCATGTCAGGAGAGGTGAGTGGCTGATGTC
 TGCTGGATACTCTTTGTGTAATGGACACACCACAGGGATGGATGTTCTCTGGGAGGAACACCCATGG
 TGACTATGCCAGGAGAGACTCTTGCTCTCGAGTTGCAGCTTCTCAGCTTACTTGTCTAGGATGTCTCGA
 GCTCATTGCTAAAAGCAGACAGGAATATGAAGACATAGCTGTGAAACTGGGAACCGATCTAGAATACCTG
 AAGAAAATTCGTGGCAAAGTCTGGAAACAGAGAATATCTAGCCCTCTGTTCAACACAAAACAATACACAA
 TGGAAATTAGAGCGACTTTATCTGCAGATGTGGGAGCATTATGCAGCTGGCAACAAACCTGACCACATGAT
 TAAGCCTGTTGAAGTCACCGAGTCAGCCTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-MluI
- ACCN:** NM_001290535
- Insert Size:** 3111 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).
- OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- 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_001290535.1](#), [NP_001277464.1](#)

RefSeq Size: 5218 bp

RefSeq ORF: 3111 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]
Transcript Variant: This variant (2) differs in the 5' UTR and uses an alternate in-frame splice site in the 5' coding region, compared to variant 1. The encoded isoform (2) is shorter than isoform 1.