OGT Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP6695b

Specification

OGT Antibody (C-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	O15294
Other Accession	P56558, P81436, Q27HV0, Q8CGY8
Reactivity	**Human, Mouse**
Predicted	**Pig, Rabbit, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit Ig**
Calculated MW	**116925**
Antigen Region	**1017-1046**

OGT Antibody (C-term) - Additional Information

Gene ID 8473

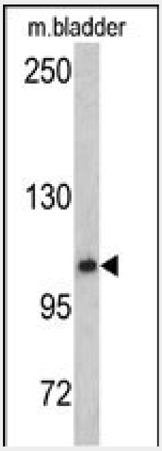
Other Names
UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase 110 kDa subunit, O-GlcNAc transferase subunit p110, O-linked N-acetylglucosamine transferase 110 kDa subunit, OGT, OGT

Target/Specificity
This OGT antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1017-1046 amino acids from the C-terminal region of human OGT.

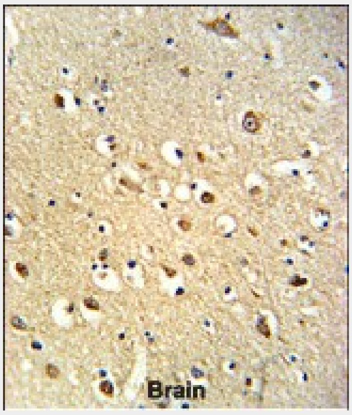
Dilution
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw



Western blot analysis of OGT antibody (C-term) (Cat. #AP6695b) in mouse bladder tissue lysates (35ug/lane). OGT (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with OGT Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

OGT Antibody (C-term) - Background

O-linked N-acetylglucosamine (O-GlcNAc) transferase (OGT) catalyzes the addition of a cycles.

Precautions
OGT Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

OGT Antibody (C-term) - Protein Information

Name OGT

Function
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:26678539, PubMed:23103939, PubMed:21240259, PubMed:21285374, PubMed:15361863). 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 (PubMed:21285374). Probably by glycosylating KMT2E/MLL5, stabilizes KMT2E/MLL5 by preventing its ubiquitination (PubMed:26678539). 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 (PubMed:<a href="http://www.unipr

single N-acetylglucosamine in O-glycosidic linkage to serine or threonine residues. Since both phosphorylation and glycosylation compete for similar serine or threonine residues, the two processes may compete for sites, or they may alter the substrate specificity of nearby sites by steric or electrostatic effects. The protein contains nine tetratricopeptide repeats and a putative bipartite nuclear localization signal.

OGT Antibody (C-term) - References

Roeder,R.G., Nature 459 (7245), 455-459 (2009)
Taylor,R.P., J. Biol. Chem. 284 (6), 3425-3432 (2009)
Slawson,C., Mol. Biol. Cell 19 (10), 4130-4140 (2008)

ot.org/citations/22923583" target="_blank">22923583). 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) (PubMed:22121020, PubMed:23353889). As part of the NSL complex indirectly involved in acetylation of nucleosomal histone H4 on several lysine residues (PubMed:20018852). O-GlcNAcylation of 'Ser-75' of EZH2 increases its stability, and facilitating the formation of H3K27me3 by the PRC2/EED-EZH2 complex (PubMed:24474760). 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:12150998, PubMed:19451179, PubMed:20018868, PubMed:20200153, PubMed:21285374, PubMed:15361863). O-glycosylates HCFC1 and regulates its proteolytic processing and transcriptional activity (PubMed:<a href="http://www.unipr

ot.org/citations/21285374" target="_blank">21285374, PubMed:28584052, PubMed:28302723). Regulates mitochondrial motility in neurons by mediating glycosylation of TRAK1 (By similarity). Glycosylates HOXA1 (By similarity). O-glycosylates FNIP1 (PubMed:30699359).

Cellular Location
Nucleus. Cytoplasm. Note=Predominantly localizes to the nucleus. [Isoform 3]: Cytoplasm. Nucleus. Cell membrane {ECO:0000250|UniProtKB:P56558}. Mitochondrion membrane {ECO:0000250|UniProtKB:P56558}. Cell projection {ECO:0000250|UniProtKB:P56558}. Note=Mostly in the nucleus. Retained in the nucleus via interaction with HCFC1 (PubMed:21285374). After insulin induction, translocated from the nucleus to the cell membrane via phosphatidylinositide binding. Colocalizes with AKT1 at the plasma membrane. TRAK1 recruits this protein to mitochondria. In the absence of TRAK1, localizes in cytosol and nucleus (By similarity) {ECO:0000250|UniProtKB:P56558, ECO:0000269|PubMed:21285374}

Tissue Location
Highly expressed in pancreas and to a lesser extent in skeletal muscle, heart, brain and placenta. Present in trace amounts in lung and liver.

OGT Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation

- Flow Cytomety
- Cell Culture