# ARG43612
# anti-OGT antibody

Package: 100 µl
Store at: -20°C

## Summary

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|---|---|
| Product Description | Rabbit Polyclonal antibody recognizes OGT |
| Tested Reactivity | Hu, Ms, Rat |
| Tested Application | ICC/IF, IHC-P, WB |
| Host | Rabbit |
| Clonality | Polyclonal |
| Isotype | IgG |
| Target Name | OGT |
| Species | Human |
| Immunogen | Synthetic peptide derived from Human OGT. |
| Conjugation | Un-conjugated |
| Alternate Names | UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase 110 kDa subunit; O-GLCNAC; EC 2.4.1.255; OGT; HRNT1; HINCUT-1; O-linked N-acetylglucosamine transferase 110 kDa subunit; O-GlcNAc transferase subunit p110 |

## Application Instructions

Application table

| Application | Dilution |
|---|---|
| ICC/IF | 1:20 - 1:100 |
| IHC-P | 1:20 - 1:50 |
| WB | 1:500 - 1:1000 |

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| Application Note | * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist. |
| Positive Control | A549 |
| Observed Size | 110-120 kDa |

## Properties

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| Form | Liquid |
| Purification | Affinity purified. |
| Buffer | 50 mM Tris-Glycine (pH 7.4), 150 mM NaCl, 0.01% Sodium azide, 40% Glycerol and 0.05% BSA. |
| Preservative | 0.01% Sodium azide |
| Stabilizer | 40% Glycerol and 0.05% BSA |
| Concentration | Batch dependent |

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| Storage instruction | For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use. |
| Note | For laboratory research only, not for drug, diagnostic or other use. |

## Bioinformation

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| Gene Symbol | OGT |
| Gene Full Name | O-linked N-acetylglucosamine (GlcNAc) transferase |
| Background | This gene encodes a glycosyltransferase that catalyzes the addition of a 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 multiple tetratricopeptide repeats that are required for optimal recognition of substrates. Alternatively spliced transcript variants encoding distinct isoforms have been found for this gene. [provided by RefSeq, Oct 2009] |
| 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). 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. 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. Involved in glycolysis regulation by mediating glycosylation of 6-phosphofructokinase PFKL, inhibiting its activity (PubMed: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:18288188, PubMed:19377461, PubMed:19451179, PubMed:20018868, PubMed:20200153, PubMed:21285374, PubMed:15361863).<br>Isoform 2: the mitochondrial isoform (mOGT) is cytotoxic and triggers apoptosis in several cell types including INS1, an insulinoma cell line. [UniProt] |
| Research Area | Neuroscience antibody; Signaling Transduction antibody |
| Calculated Mw | 117 kDa |
| PTM | Ubiquitinated, leading to its proteasomal degradation.<br>Phosphorylation on Ser-3 or Ser-4 by GSK3-beta positively regulates its activity. |
| Cellular Localization | Cell membrane, Cell projection, Cytoplasm, Membrane, Mitochondrion, Nucleus |

## Images


ARG43612 anti-OGT antibody WB image

Western blot: Human A549 whole cell lysates stained with ARG43612 anti-OGT antibody at 1:1000 dilution.