

Recombinant Human OGT Protein (606-1022 aa), His-SUMO-tagged

Cat. No. OGT-700H **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Human OGT Protein (606-1022 aa) is produced by E. coli expression system. This protein is fused with a 6xHis-SUMO tag at the N-terminal. Research Area: Neuroscience. Protein Description: Partial.

Species Human

Source E.coli

ProteinLength 606-1022 aa

Description Catalyzes the transfer of a single N-acetylglucosamine from UDP-GlcNAc to a serine or threonine residue in Cytoplasmic domain 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 . 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

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'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 . 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.

Form Tris-based buffer, 50% glycerol

Molecular Mass 62.5 kDa

AA Sequence

MAEANHFIDLSQIPCNGKAADRIHQDGIHILVNMNGYTKGARNELFALRPAPIQAMWL
 GYPGTSGALFMDYIITDQETSPAEEVAEQYSEKLAYMPHTFFIGDHANMFPHLKKKAVI
 DFKSNGHIYDNRIVLNGIDLKAFDLSLPDVKIVKMKCPDGGDNADSSNTALNMPVIPM
 NTIAEAVIEMINRGQIQITINGFSISNGLATTQINNKAATGEEVPRTIIVTTRSQYGLPED
 AIVYCNFNQLYKIDPSTLQMWANILKRVNSVLWLLRFPVAVGEPNIQQYAQNMGLPQ
 NRIIFSPVAPKEEHVRRGQLADVCLDTPLCNGHTTGMDVLWAGTPMVTMPGETLAS
 RVAASQLTCLGCLELIAKNRQEYEDIAVKLGTDLLEYLKKVVRGKVVWQRISPLFNTKQ
 YTMELERLYLQ

Purity > 90% as determined by SDS-PAGE.

Notes Repeated freezing and thawing is not recommended. Store working aliquots at 4 centigrade for up to one week.

Storage The shelf life is related to many factors, storage state, buffer ingredients, storage

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temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20 centigrade/-80 centigrade. The shelf life of lyophilized form is 12 months at -20 centigrade/-80 centigrade.

Concentration A hardcopy of COA with concentration instruction is sent along with the products.

GENE INFORMATION

Gene Name OGT O-linked N-acetylglucosamine (GlcNAc) transferase [Homo sapiens (human)]

Official Symbol OGT

Synonyms OGT; HRNT1; O-GLCNAC; EC 2.4.1.255

Gene ID 8473

mRNA Refseq NM_181672

Protein Refseq NP_858058

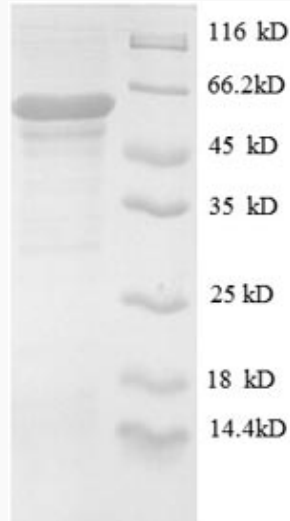
MIM 300255

UniProt ID O15294

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(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

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