

Datasheet for ABIN3094291 OGT Protein (AA 2-1046) (His tag)



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1 Image

Overview

Quantity:	1 mg
Target:	OGT
Protein Characteristics:	AA 2-1046
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This OGT protein is labelled with His tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB), Crystallization (Crys)

Product Details

Sequence:	<p>ASSVGNVADS TEPTKRMLSF QGLAELAHRE YQAGDFEAAE RHCMQLWRQE PDNTGVLLLL</p> <p>SSIHFAQRRRL DRSAHFSTLA IKQNPLLAEA YSNLGNVYKE RGQLQEAIEH YRHALRLKPD</p> <p>FIDGYINLAA ALVAAGDMEG AVQAYVSALQ YNPDLVCVRS DLGNLLKALG RLEEAKACYL</p> <p>KAIETQPNFA VAWSNLGCVF NAQGEIWLAI HHFEKAVTLD PNFLDAYINL GNVLKEARIF</p> <p>DRAVAAYLRA LSLSPNHAVV HGNLACVYYE QGLIDLAI DT YRRAIELQPH FPDAYCNLAN</p> <p>ALKEKGSVAE AEDCYNTALR LCPTHADSLN NLANIKREQG NIEEAVRLYR KALEVFPEFA</p> <p>AAHSNLASVL QQQGKLQEAL MHYKEAIRIS PTFADAYSNM GNTLKEMQDV QGALQCYTRA</p> <p>IQINPAFADA HSNLASIHKD SGNIEPAIAS YRTALKLKPDP FPDAYCNLAH CLQIVCDWTD</p> <p>YDERMKKLVS IVADQLEKNR LPSVHPHHSM LYPLSHGFRK AIAERHGNLC LDKINVLHKP</p> <p>PYEHKDLKL SDGRLRVGYV SSDFGNHPTS HLMQSIPGMH NPDKFEVFCY ALSPDDGTNF</p> <p>RVKVMAEANH FIDLSQIPCN GKAADRIHQD GIHILVNMNG YTKGARNELF ALRPAPIQAM</p> <p>WLGYPGTSGA LFMDYIITDQ ETSPAEEVAEQ YSEKLAYMPH TFFIGDHANM FPHLKKKAVI</p>
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DFKSNNGHIYD NRIVLNGIDL KAFLDSLDPDV KIVKMKCPDG GDNADSSNTA LNMPVIPMNT
IAEAVIEMIN RGQIQITING FSISNGLATT QINNKAATGE EVPRTIIVTT RSQYGLPEDA IVYCNFNQLY
KIDPSTLQMW ANILKRV PNS VLWLLRFAV GEPNIQYQAQ NMGLPQNR II FSPVAPKEEH
VRRGQLADVC LDTPLCNGHT TGMDVLWAGT PMVTMPGETL ASRVAASQLT CLGCLELIAK
NRQEYEDIAV KLGTDLEYLK KVRGKVWKQR ISSPLFNTKQ YTMELERLYL QMWEHYAAGN
KPDHMIKPVE VTESA

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human OGT Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm.

The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Product Details

Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

Target Details

Target:	OGT
Alternative Name:	OGT (OGT Products)
Background:	<p>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). {ECO:0000269 PubMed:12150998, ECO:0000269 PubMed:15361863, ECO:0000269 PubMed:18288188, ECO:0000269 PubMed:19377461, ECO:0000269 PubMed:19451179,</p>

Target Details

ECO:0000269|PubMed:20018852, ECO:0000269|PubMed:20018868, ECO:0000269|PubMed:20200153, ECO:0000269|PubMed:21285374, ECO:0000269|PubMed:22121020, ECO:0000269|PubMed:22923583, ECO:0000269|PubMed:23353889, ECO:0000269|PubMed:24474760}. Isoform 2: the mitochondrial isoform (mOGT) is cytotoxic and triggers apoptosis in several cell types including INS1, an insulinoma cell line.

Molecular Weight: 117.7 kDa Including tag.

UniProt: [O15294](#)

Pathways: [Regulation of Carbohydrate Metabolic Process](#)

Application Details

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Comment: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process