

UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase 110 kDa subunit Polyclonal Antibody

Catalog No: #42277

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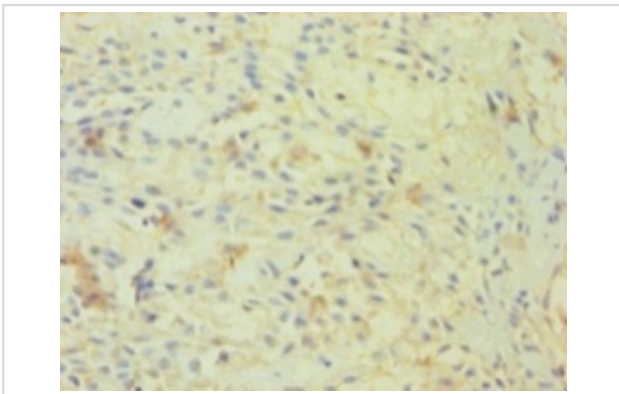
Description

Product Name	UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase 110 kDa subunit Polyclonal Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Caprylic Acid Ammonium Sulfate Precipitation purified
Applications	IHC
Species Reactivity	Hu
Specificity	The antibody detects endogenous level of total UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase 110 kDa subunit polyclonal antibody.
Immunogen Type	protein
Immunogen Description	Recombinant human UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransferase 110 kDa subunit proteinB£B"606-1022aaB£B©
Target Name	UDP-N-acetylglucosamine--peptide N-acetylglucosaminyltransfe
Other Names	O-GlcNAc transferase subunit p110, O-linked N-acetylglucosamine transferase 110 kDa subunit, OGT
Accession No.	Swiss-Prot#: O15294
Uniprot	O15294
GeneID	8473;
Formulation	Preservative: 0.03% Proclin 300 Constituents: 50% Glycerol, 0.01M PBS, PH 7.4
Storage	Store at -20°C

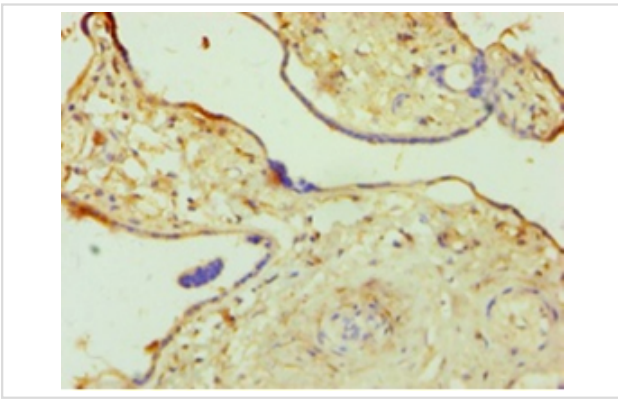
Application Details

Immunohistochemistry: 1:20 - 1:200

Images



Immunohistochemical analysis of paraffin-embedded human breast cancer using #42277 at dilution of 1:100.



Immunohistochemical analysis of paraffin-embedded human placenta tissue using #42277 at dilution of 1:100.

Background

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. 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. 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.

References

- [1]"Human O-GlcNAc transferase (OGT): genomic structure, analysis of splice variants, fine mapping in Xq13.1." Nolte D., Muller U. Mamm. Genome 13:62-64(2002).
- [2]"TET2 promotes histone O-GlcNAcylation during gene transcription." Chen Q., Chen Y., Bian C., Fujiki R., Yu X. Nature 493:561-564(2013).
- [3]"TET2 and TET3 regulate GlcNAcylation and H3K4 methylation through OGT and SET1/COMPASS." Deplus R., Delatte B., Schwinn M.K., Defrance M., Mendez J., Murphy N., Dawson M.A., Volkmar M., Putmans P., Calonne E., Shih A.H., Levine R.L., Bernard O., Mercher T., Solary E., Uhr M., Daniels D.L., Fuks F. EMBO J. 32:645-655(2013).

Note: This product is for in vitro research use only