SANTA CRUZ BIOTECHNOLOGY, INC.

O-GlcNAc transferase (H-300): sc-32921

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

O-linked N-acetylglucosamine (O-GlcNAc) transferase (also designated OGT) 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. O-GlcNAc transferase has been purified from rat liver. It exists as a heterotrimeric complex with two subunits of the same molecular mass and one shorter subunit. Both polypeptides are related; the short subunit band is either a proteolytic product of the polypeptide or the product of an alternative translation start site. O-GlcNAc transferase is expressed as multiple transcripts that are present in different amounts in various human tissues, with the highest levels of expression in pancreas. Immunofluorescence of human cells expressing rat O-GlcNAc transferase indicated that it is present in both the nucleus and cytosol. HeLa cells expressing O-GlcNAc transferase do not survive well during prolonged incubations, suggesting that this protein may be toxic to the cells.

CHROMOSOMAL LOCATION

Genetic locus: OGT (human) mapping to Xq13.1; Ogt (mouse) mapping to X D.

SOURCE

O-GlcNAc transferase (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of O-GlcNAc transferase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

O-GlcNAc transferase (H-300) is recommended for detection of O-GlcNAc transferase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

O-GlcNAc transferase (H-300) is also recommended for detection of O-GlcNAc transferase in additional species, including equine, canine, bovine, porcine and avian.

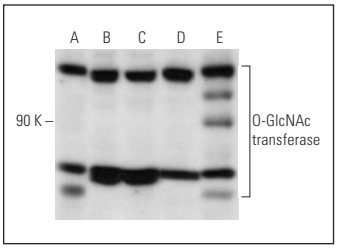
Suitable for use as control antibody for O-GlcNAc transferase siRNA (h): sc-40780, O-GlcNAc transferase siRNA (m): sc-40781, O-GlcNAc transferase siRNA (r): sc-156078, O-GlcNAc transferase shRNA Plasmid (h): sc-40780-SH, O-GlcNAc transferase shRNA Plasmid (m): sc-40781-SH, O-GlcNAc transferase shRNA Plasmid (r): sc-156078-SH, O-GlcNAc transferase shRNA (h) Lentiviral Particles: sc-40780-V, O-GlcNAc transferase shRNA (m) Lentiviral Particles: sc-40781-V and O-GlcNAc transferase shRNA (r) Lentiviral Particles: sc-156078-V.

Molecular Weight of O-GlcNAc transferase: 110 kDa.

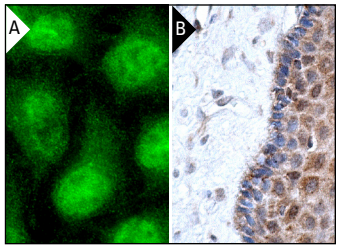
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



O-GlcNAc transferase (H-300): sc-32921. Western blot analysis of O-GlcNAc transferase expression in rat PBL (**A**), A549 (**B**) and HeLa (**C**) whole cell lysates and HeLa nuclear extract (**D**) and mouse brain tissue extract (**E**).



O-GlcNAc transferase: sc-32921. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Noach, N., et al. 2007. Modification of topoisomerase I activity by glucose and by O-GlcNAcylation of the enzyme protein. Glycobiology 17: 1357-1364.
2. Isono, T. 2011. O-GlcNAc-specific antibody CTD110.6 cross-reacts with N-GlcNAc2-modified proteins induced under glucose deprivation. PLoS ONE 6: e18959.
3. Park, S., et al. 2011. Protein O-GlcNAcylation regulates *Drosophila* growth through the Insulin signaling pathway. Cell. Mol. Life Sci. 68: 3377-3384.
4. Zhang, F., et al. 2012. Hsp90 regulates O-linked β-N-acetylglucosamine transferase: a novel mechanism of modulation of protein O-linked β-N-acetylglucosamine modification in endothelial cells. Am. J. Physiol., Cell Physiol. 302: C1786-C1796.
5. Zhao, X., et al. 2013. Crosstalk between NSL histone acetyltransferase and MLL/SET complexes: NSL complex functions in promoting histone H3K4 dimethylation activity by MLL/SET complexes. PLoS Genet. 9: e1003940.
6. Harris, R.B. and Apolzan, J.W. 2015. Hexosamine biosynthetic pathway activity in leptin resistant sucrose-drinking rats. Physiol. Behav. 138: 208-218.
7. Daou, S., et al. 2015. The BAP1/ASXL2 histone H2A deubiquitinase complex regulates cell proliferation and is disrupted in cancer. J. Biol. Chem. 290: 28643-28663.

RESEARCH USE

For research use only, not for use in diagnostic procedures.