

# O-GlcNAc transferase (A-6): sc-74547

## 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 (A-6) is a mouse monoclonal 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<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

O-GlcNAc transferase (A-6) is recommended for detection of O-GlcNAc transferase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

O-GlcNAc transferase (A-6) is also recommended for detection of O-GlcNAc transferase in additional species, including equine, canine and bovine.

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.

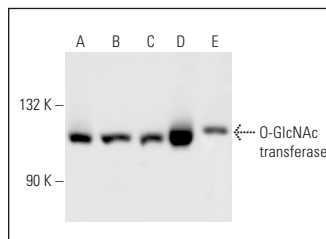
Molecular Weight of O-GlcNAc transferase: 110 kDa.

Positive Controls: A549 cell lysate: sc-2413, SK-N-MC cell lysate: sc-2237 or C4 whole cell lysate: sc-364186.

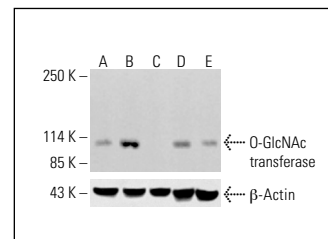
## STORAGE

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 (A-6): sc-74547. Western blot analysis of O-GlcNAc transferase expression in SK-N-MC nuclear extract (A) and SK-N-MC (B), A549 (C), c4 (D) and rat PBL (E) whole cell lysates.



O-GlcNAc transferase (A-6): sc-74547. Western blot analysis of O-GlcNAc transferase expression in untreated K-562 (A), chemically-treated K-562 (B), untreated HCT-116 (C) and chemically-treated HCT-116 (D, E) whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

## SELECT PRODUCT CITATIONS

- Daou, S., et al. 2011. Crosstalk between O-GlcNAcylation and proteolytic cleavage regulates the host cell factor-1 maturation pathway. *Proc. Natl. Acad. Sci. USA* 108: 2747-2752.
- Zhou, P., et al. 2013. Mixed lineage leukemia 5 (MLL5) protein regulates cell cycle progression and E2F1-responsive gene expression via association with host cell factor-1 (HCF-1). *J. Biol. Chem.* 288: 17532-17543.
- Qiu, H., et al. 2016. Modification of p27 with O-linked N-acetylglucosamine regulates cell proliferation in hepatocellular carcinoma. *Mol. Carcinog.* 56: 258-271.
- Troiano, J.A., et al. 2020. Pregnancy decreases O-GlcNAc-modified proteins in systemic arteries of normotensive and spontaneously hypertensive rats. *Life Sci.* 266: 118885.
- Ping, X., et al. 2022. O-GlcNAc transferase is important for homology-directed repair. *DNA Repair* 119: 103394.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **O-GlcNAc transferase (F-12): sc-74546** for O-GlcNAc transferase antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.