SANTA CRUZ BIOTECHNOLOGY, INC.

# O-GlcNAc transferase (F-12): sc-74546

## 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.

## REFERENCES


1. Haltiwanger, R.S., et al. 1992. Glycosylation of nuclear and cytoplasmic proteins. Purification and characterization of a uridine diphospho-N-acetylglucosamine:polypeptide β-N-acetylglucosaminyltransferase. J. Biol. Chem. 267: 9005-9013.
2. Kreppel, L.K., et al. 1997. Dynamic glycosylation of nuclear and cytosolic proteins. Cloning and characterization of a unique O-GlcNAc transferase with multiple tetratricopeptide repeats. J. Biol. Chem. 272: 9308-9315.


## CHROMOSOMAL LOCATION

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

## SOURCE

O-GlcNAc transferase (F-12) 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 $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

O-GlcNAc transferase (F-12) is available conjugated to agarose (sc-74546 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74546 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74546 PE), fluorescein (sc-74546 FITC), Alexa Fluor® 488 (sc-74546 AF488), Alexa Fluor® 546 (sc-74546 AF546), Alexa Fluor® 594 (sc-74546 AF594) or Alexa Fluor® 647 (sc-74546 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74546 AF680) or Alexa Fluor® 790 (sc-74546 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## RESEARCH USE

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

## APPLICATIONS

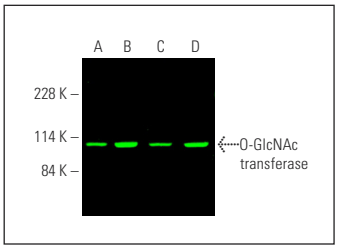
O-GlcNAc transferase (F-12) is recommended for detection of O-GlcNAc transferase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

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.

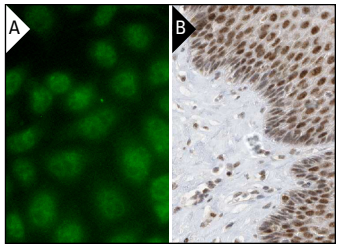
Molecular Weight of O-GlcNAc transferase: 110 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, F9 cell lysate: sc-2245 or C2C12 whole cell lysate: sc-364188.

## DATA




O-GlcNAc transferase (F-12): sc-74546. Near-infrared western blot analysis of O-GlcNAc transferase expression in SK-N-SH (**A**), F9 (**B**), I-11.15 (**C**) and C2C12 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.




O-GlcNAc transferase (F-12): sc-74546. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization. Kindly provided by Yang Xiang, Ph.D., Division of Newborn Medicine, Boston Children's Hospital, Cell Biology Department, Harvard Medical School (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human esophagus tissue showing nuclear staining of squamous epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

## SELECT PRODUCT CITATIONS


1. Mi, W., et al. 2011. O-GlcNAcylation is a novel regulator of lung and colon cancer malignancy. Biochim. Biophys. Acta 1812: 514-519.
2. Phoomak, C., et al. 2017. High glucose levels boost the aggressiveness of highly metastatic cholangiocarcinoma cells via O-GlcNAcylation. Sci. Rep. 7: 43842.


## STORAGE

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