

O-GlcNAc transferase (D-20): sc-22625

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

- 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.
- 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.
- Lubas, W.A., et al. 1997. O-Linked GlcNAc transferase is a conserved nucleocytoplasmic protein containing tetratricopeptide repeats. *J. Biol. Chem.* 272: 9316-3624.
- Shafi, R., et al. 2000. The O-GlcNAc transferase gene resides on the X chromosome and is essential for embryonic stem cell viability and mouse ontogeny. *Proc. Natl. Acad. Sci. USA* 97: 5735-5739.
- LocusLink Report (LocusID: 30025). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

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

SOURCE

O-GlcNAc transferase (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of O-GlcNAc transferase of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-22625 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

O-GlcNAc transferase (D-20) 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), 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 (D-20) 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 shRNA Plasmid (h): sc-40780-SH, O-GlcNAc transferase shRNA Plasmid (m): sc-40781-SH, O-GlcNAc transferase shRNA (h) Lentiviral Particles: sc-40780-V and O-GlcNAc transferase shRNA (m) Lentiviral Particles: sc-40781-V .

Molecular Weight of O-GlcNAc transferase: 110 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, A549 cell lysate: sc-2413 or mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **O-GlcNAc transferase (F-12): sc-74546** or **O-GlcNAc transferase (C-10): sc-376253**, our highly recommended monoclonal alternatives to O-GlcNAc transferase (D-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **O-GlcNAc transferase (F-12): sc-74546**.