SANTA CRUZ BIOTECHNOLOGY, INC.

O-GlcNAc (10D8): sc-81483

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

O-GlcNAc (O-linked N-acetylglucosamine) is a form of protein glycosylation found exclusively in the nucleus and cytoplasm of eukaryotic cells. Many proteins are modified at their serine and threonine hydroxyl groups by the attachment of O-GlcNAc. Proteins that regulate trafficking into and out of the nuclear pore are extensively O-GlcNAcylated. Phosphorylated O-GlcNAc proteins form reversible multimeric complexes with other proteins and these associations are often regulated by phosphorylation. O-GlcNAc proteins may play a key role in pathogenesis of tumors and various cancer cells. O-GlcNAc residues regulate the assembly of the preinitiation complex and are therefore important in transcriptional initiation. Cytoskeletal and membrane O-GlcNAc proteins maintain erythrocyte cell shape and regulate the degradation of proteins responsible for lesions in Alzheimer's disease.

REFERENCES

1. Haltiwanger, R.S., et al. 1992. Glycosylation of nuclear and cytoplasmic proteins. Purification and characterization of a uridine diphospho-N-acetyl-glucosamine: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.
3. Lubas, W.A., et al. 1997. O-linked GlcNAc transferase is a conserved nucleocytoplasmic protein containing tetratricopeptide repeats. J. Biol. Chem. 272: 9316-3624.
4. 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.
5. Akimoto, Y., et al. 2003. Localization of the O-GlcNAc transferase and O-GlcNAc-modified proteins in rat cerebellar cortex. Brain Res. 966: 194-205.
6. Chen, D., et al. 2005. Identification of secret agent as the O-GlcNAc transferase that participates in Plum pox virus infection. J. Virol. 79: 9381-9387.
7. Leavy, T.M. and Bertozzi, C.R. 2007. A high-throughput assay for O-GlcNAc transferase detects primary sequence preferences in peptide substrates. Bioorg. Med. Chem. Lett. 17: 3851-3854.
8. Yang, X., et al. 2008. Phosphoinositide signalling links O-GlcNAc transferase to Insulin resistance. Nature 451: 964-969.
9. LocusLink Report (LocusID: 30025). http://www.ncbi.nlm.nih.gov/LocusLink/

SOURCE

O-GlcNAc (10D8) is a mouse monoclonal antibody raised against N-Acetyl-glucosamine.

PRODUCT

Each vial contains 50 µg IgM in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

O-GlcNAc (10D8) is recommended for detection of N-Acetylglucosamine in a broad range of species, including mammals, insects, worms, plants and filamentous fungi, by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Positive Controls: HeLa nuclear extract: sc-2120, A549 cell lysate: sc-2413 or mouse brain extract: sc-2253.

SELECT PRODUCT CITATIONS

1. Sakaidani, Y., et al. 2010. O-GlcNAc modification of the extracellular domain of Notch receptors. Methods Enzymol. 480: 355-373.
2. Rambaruth, N.D., et al. 2012. The lectin Helix pomatia agglutinin recognizes O-GlcNAc containing glycoproteins in human breast cancer. Glycobiology 22: 839-848.
3. Tashima, Y. and Stanley, P. 2014. Antibodies that detect O-linked β-D-N-acetylglucosamine on the extracellular domain of cell surface glycoproteins. J. Biol. Chem. 289: 11132-11142.

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 for detailed protocols and support products.