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ProductInformation

Anti-*O*-GlcNAc Transferase (TI-14)
Developed in Rabbit
IgG Fraction of Antiserum

Product Number **O 6014**

Product Description

Anti-*O*-GlcNAc Transferase (OGT) (TI-14) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 1024-1037 of human *O*-GlcNAc transferase, conjugated to KLH via an N-terminal added cysteine residue. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-*O*-GlcNAc Transferase (OGT) (TI-14) recognizes specifically human, mouse, and rat *O*-GlcNAc transferase. Applications include immunoblotting (110 kDa). Staining of the OGT band in immunoblotting is specifically inhibited by the immunizing peptide.

Nuclear and cytoplasmic proteins are subjected to several post-translational modifications, such as phosphorylation, methylation, acetylation, glycosylation, and ubiquitination, all playing a major role in regulation of cellular processes.[1, 2] O-linked β-N-acetyl glycosamine (*O*-GlcNAc) is a monosaccharide modification, abundant on serine and threonine residues of a large number of nucleocytoplasmic proteins.[3] The enzyme *O*-GlcNAc transferase (OGT) catalyzes the addition of an N-acetylglucosamine residue to the amino acids serine or threonine.[1, 2] The enzyme is an homotrimer consisting of three subunits of 110 kDa each, with multiple tetratricopeptide (TPR) repeats.[4] The *O*-GlcNAcylation of intracellular proteins can occur on phosphorylation sites, and have been implicated in the regulation of gene transcription, diabetes, and neurological processes.[3] *O*-GlcNAc modifications of nucleocytoplasmic proteins may serve as a negative feedback system for insulin signaling.[3, 5] It is widely accepted that modification of serine and threonine residues by *O*-GlcNAc transferase (OGT) is involved in the control of transcription, either by controlling elongation by RNA polymerase II or by targeting transcription factors to promoters.[6, 7] Growing evidences show that *O*-GlcNAc is involved in repressing transcription.[8, 9] OGT was also shown to interact with an histone deacetylase complex by binding to the correpressor Sin3A. This interaction leads to the repression of transcription after transcription factors and RNA polymerase II are modified by addition of *O*-GlcNAc.[9] *O*-GlcNAc modification reversibly inhibits proteosomal function in an ubiquitin-independent fashion.[10]

Reagent

Anti-*O*-GlcNAc Transferase (OGT) (TI-14) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody dilution of 1:1,000-1:2,000 is recommended using HeLa cell nuclear extracts.

By indirect immunofluorescence, a working antibody dilution of 1:50-1:100 is recommended using A549 human lung carcinoma cells fixed with paraformaldehyde/triton.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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