

Monoclonal Antibody to O-GlcNAc - Purified

Alternate names:	O-linked N-acetylglucosamine
Catalog No.:	SM5014P
Quantity:	0.1 ml
Concentration:	2.0 mg/ml
Background:	Diffusion of metabolites and small non-nuclear molecules as well as active, mediated import of protein and export of protein and RNA through the nuclear envelope occurs through nuclear pore complexes or NPC's. NPC's contain up to 100 different polypeptides which have a combined mass of about 125 megadaltons. The channel available for passive transport through the NPC is about 9-10 nm in diameter while carrier mediated changes in the NPC result in a ~25 nm channel used for larger, actively transported molecules. Of the 100 polypeptides, at least 8 of these are O-linked N-acetylglucosamine-modified in mammalian cells. All of the mammalian O-linked glycoproteins contain multiple copies of phenylalanine, glycine dipeptide repeats dispersed throughout part of their sequence. Studies indicate that the NPC O-linked glycoproteins have a direct role in nuclear protein import.
Host / Isotype:	Mouse / IgG1
Recommended Isotype Controls:	AM03095PU-N
Clone:	RL2
Immunogen:	Pore complex-lamina fraction purified from Rat liver nuclear envelopes.
Format:	State: Liquid purified IgG fraction Purification: Protein A Chromatography Buffer System: PBS buffer with 0.05% Sodium Azide as preservative
Applications:	Immunofluorescence: 1/100, primarily labels NPC O-linked glycoproteins and has been successfully used on a wide variety of mammalian cells. Labeling occurs at the NPC, with most of the labeling at the cytoplasmic and/or nucleoplasmic margins, as well as within the nucleus. Immunohistochemistry on Paraffin Embedded Sections: 1/200. Immunoprecipitation. Western Blot: 1/1000, recognizes up to eight different proteins from the NPC of approximately 210, 180, 145, 100, 63, 58, 54 and 45 kDa as well as other O-linked glycoproteins outside of the NPC. Dot Blot: 1/800. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody detects Nuclear Pore Complex (NPC), cytoplasmic and intranuclear O-linked glycoproteins from Human, Mouse, Virus and Rat tissues.

Storage: Upon receipt, store undiluted (in aliquots) at -20°C.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Am J Physiol Endocrinol Metab, Mar 2007; 292: E884 - E890.
2. J. Biol. Chem., Oct 2007; 282: 31038 - 31045.
3. Endocrinology Sept 2005 doi:10.1210/en.2005-0523
4. JBC Papers in Press, manuscript M509481200, Oct 2005
5. IOVS, 44(9): 3802-3809, 2003.
6. J. Cell Biol., 104: 1157-1164, 1987.
7. J. Cell Biol., 104:1143-1156, 1987.

Pictures: Western blot analysis of mouse cortical brain lysates using O-Linked N-Acetylglucosamine Monoclonal Antibody (Cat.-No SM5014P). Blots containing cortical extracts from 4 individual C57BL/6 mice (Lanes 1-4) were blocked with 5% milk in TBST, and probed with SM5014P (1/1000), followed by a fluorophore-conjugated goat anti-mouse IgG secondary antibody. Data courtesy of the Innovators Program.

