

Monoclonal Antibody to Nuclear Pore-O-Linked Glycoprotein - Purified

Alternate names:	Nuclear Pore Marker
Catalog No.:	SM5013P
Quantity:	0.1 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. Reacts with Amphibian, Rat and Yeast.
Host / Isotype:	Mouse / IgM
Recommended Isotype Controls:	SM13P
Clone:	RL1
Immunogen:	Pore complex-lamina fraction purified from rat liver nuclear envelopes.
Format:	State: Liquid purified IgG fraction. Buffer System: PBS containing 0.05% sodium azide as preservative.
Applications:	Immunoprecipitation. Immunofluorescence: 1/100, staining of NPC O-linked glycoproteins with SM5013P results in exclusive labeling of the NPC proteins on a wide variety of mammalian cells as well as <i>S. cerevisiae</i> and <i>Xenopus</i> . Labeling occurs exclusively at the NPC with most of the labeling at the cytoplasmic and nucleoplasmic margins Western Blot: 1/1000, detects up to eight different proteins from the nuclear pore complex (NPC) of approximately 210, 180, 145, 100, 63, 58, 54 and 45 kDa. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This antibody detects nuclear pore-O-linked glycoprotein from rat, amphibian and yeast. Microinjected SM5013P inhibits both protein import and RNA export in <i>Xenopus</i> oocytes.
Storage:	Store the antibody at -20°C. Avoid repeated freezing and thawing. Shelf life: one year from despatch.

- General Readings:**
1. J. Cell Biol., 104: 1157-1164, 1987.
 2. J. Cell Biol., 104:1143-1156, 1987.
 3. J. Cell Biol., 107: 1289-1297, 1988.
 4. Hum. Mol. Genet., Vol 12: 1847-1863, Aug 2003
 5. J. Cell Biol., Vol 156: 53, Jan 2002
 6. PNAS, Aug 2006; 103: 11952-11957.