

# Endothelial Nitric Oxide Synthase (Ser-632), phospho-specific

<b>Cat. #</b>	NM2321
<b>Host</b>	Mouse Monoclonal IgG1
<b>Size</b>	100 µl

## **Background:**

Nitric oxide (NO) has a broad range of biological activities and is implicated in signaling pathways in phylogenetically diverse species. Nitric oxide synthases (NOS), the enzymes responsible for synthesis of NO, are homodimers whose monomers are themselves two fused enzymes: a cytochrome reductase and a cytochrome that requires three cosubstrates (L-arginine, NADPH, and O<sub>2</sub>) and five cofactors or prosthetic groups (FAD, FMN, calmodulin, tetrahydrobiopterin, and heme). Several distinct NOS isoforms are produced from three distinct genes. The inducible form of NOS, iNOS (NOS-II), is Ca<sup>2+</sup> independent and is expressed in a broad range of cell types, and two constitutive Ca<sup>2+</sup>/CaM-dependent forms of NOS: nNOS (bNOS, NOS-I) identified in neurons and eNOS (ecNOS, NOS-III) identified in endothelial cells. Regulation of eNOS activity occurs through phosphorylation at multiple sites. Phosphorylation of Ser-633 (mouse Ser-632) in the FMN binding domain increases eNOS activity and may be important for the maintenance of NO synthesis after initial activation by Ca(2+) flux and Ser-1177 phosphorylation.

## **References**

- Xie, Q.W. et al. (1992) Science 256:225.  
Musicki, B. et al. (2005) Proc. Natl. Acad. Sci.102(33):11870.  
Mount, P.F. et al. (2007) J Mo.l Cell. Cardiol. 42(2):271.

## **Immunogen:**

Phospho-eNOS (Ser-632) synthetic peptide (coupled to carrier protein) corresponding to amino acids surrounding Ser-632 in mouse eNOS. This sequence is conserved in human (Ser-633) and rat (Ser-632) eNOS, and has low homology to other NOS family members.

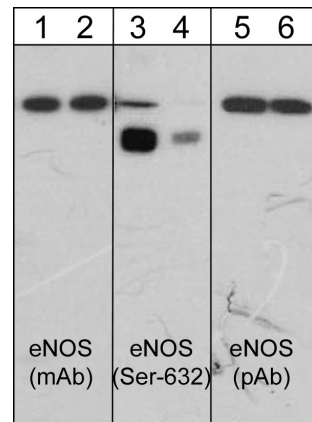
## **Applications:**

WB 1:500  
ELISA 1:1000

End user should determine optimal dilution for their particular applications and experiments. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

## **Related Products:**

- NM2211 Endothelial Nitric Oxide Synthase (C-terminal region) Mouse Monoclonal  
NP2281 Endothelial Nitric Oxide Synthase Rabbit Polyclonal  
NP2131 Inducible Nitric Oxide Synthase Rabbit Polyclonal  
NP2141 Neuronal Nitric Oxide Synthase Rabbit Polyclonal



Western blot analysis of human umbilical vein endothelial cells before (lanes 1, 3, 5) and after (lanes 2, 4, 6) treatment with lambda phosphatase. The blots were probed with anti-endothelial Nitric Oxide Synthase (eNOS) monoclonal antibody (lanes 1 & 2), anti-eNOS (Ser-632) phospho-specific antibody (lanes 3 & 4), and anti-eNOS polyclonal antibody (lanes 5 & 6).

## **Buffer and Storage:**

Mouse monoclonal antibody purified with protein A chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

## **Specificity:**

The antibody detects a 140 and 120 kDa\* bands on SDS-PAGE immunoblots of human umbilical vein endothelial cells, but these bands are not observed after lambda phosphatase treatment. The 120 kDa band may be a truncated form of eNOS.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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