

# Endothelial Nitric Oxide Synthase

Cat. # NP2281

Host Rabbit Polyclonal

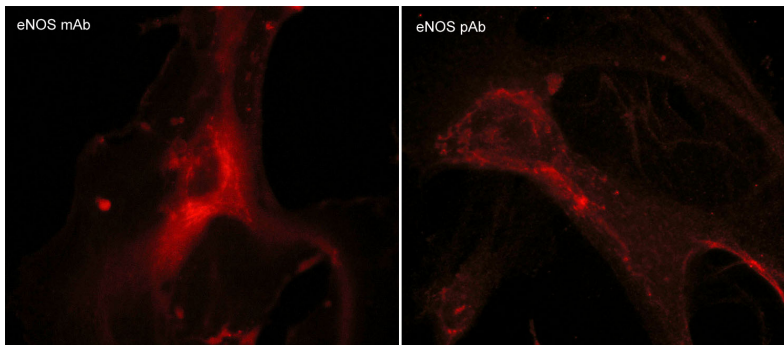
Size 100 µl

## Background:

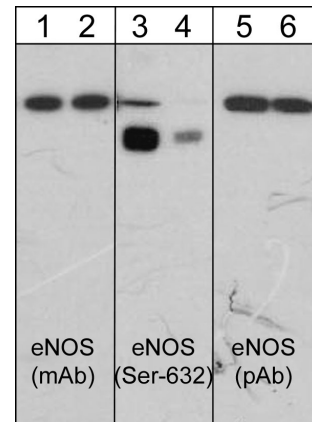
Nitric oxide (NO) has a broad range of biological activities and is implicated in signaling pathways in phylogenetically diverse species. Nitric oxide synthases (NOS), the enzymes responsible for synthesis of NO, are homodimers whose monomers are themselves two fused enzymes: a cytochrome reductase and 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.



Immunocytochemical labeling of endothelial nitric oxide synthase (eNOS) in paraformaldehyde-fixed and NP-40-permeabilized human umbilical vein endothelial cells. The cells were labeled with mouse monoclonal eNOS (NM2211) and rabbit polyclonal eNOS (NP2281) antibodies, then the antibodies were detected using appropriate secondary antibodies conjugated to Cy3.



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).

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# Endothelial Nitric Oxide Synthase

**Cat. #** NP2281  
**Host** Rabbit Polyclonal  
**Size** 100 µl

## **Immunogen:**

This antibody was generated from a recombinant mouse eNOS protein that included amino acids residues in the C-terminal region. This sequence is conserved in human and rat eNOS, and has low homology to other NOS family members.

## **Buffer and Storage:**

Rabbit polyclonal, affinity-purified antibody 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.

## **Applications:**

WB 1:1000  
ELISA 1:2000  
ICC 1:50

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 1hour at room temperature.

## **Specificity:**

The antibody detects a 140 kDa\* protein corresponding to eNOS on SDS-PAGE immunoblots of human umbilical vein endothelial cells.

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

## **Related Products:**

NM2321 Endothelial Nitric Oxide Synthase (Ser-632), phospho-specific  
NM2211 Endothelial Nitric Oxide Synthase (C-terminal region) Mouse  
NP2131 Inducible Nitric Oxide Synthase Rabbit Polyclonal  
NP2141 Neuronal Nitric Oxide Synthase Rabbit Polyclonal

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