

# NOS3 (C-6): sc-376542

## BACKGROUND

Nitric oxide (NO) has a broad range of biological activities and has been implicated in signaling pathways in phylogenetically diverse species. Nitric oxide synthases (NOSs), the enzymes responsible for synthesis of NO, contain an N-terminal oxygenase domain and a C-terminal reductase domain. NOS activity requires homodimerization as well as 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 have been described and been shown to represent the products of three distinct genes. These include two constitutive Ca<sup>2+</sup>/CaM-dependent forms of NOS, including NOS1 (also designated ncNOS) whose activity was first identified in neurons, and NOS3 (also designated eNOS), first identified in endothelial cells. The inducible form of NOS, NOS2 (also designated iNOS), is Ca<sup>2+</sup>-independent and is expressed in a broad range of cell types.

## CHROMOSOMAL LOCATION

Genetic locus: NOS3 (human) mapping to 7q36.1; Nos3 (mouse) mapping to 5 A3.

## SOURCE

NOS3 (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1173-1202 at the C-terminus of NOS3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376542 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

NOS3 (C-6) is recommended for detection of NOS3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NOS3 siRNA (h): sc-36093, NOS3 siRNA (m): sc-36094, NOS3 siRNA (r): sc-270518, NOS3 shRNA Plasmid (h): sc-36093-SH, NOS3 shRNA Plasmid (m): sc-36094-SH, NOS3 shRNA Plasmid (r): sc-270518-SH, NOS3 shRNA (h) Lentiviral Particles: sc-36093-V, NOS3 shRNA (m) Lentiviral Particles: sc-36094-V and NOS3 shRNA (r) Lentiviral Particles: sc-270518-V.

Molecular Weight of NOS3: 140 kDa.

Positive Controls: NOS3 (m): 293T Lysate: sc-122097, mouse brain extract: sc-2253 or A549 cell lysate: sc-2413.

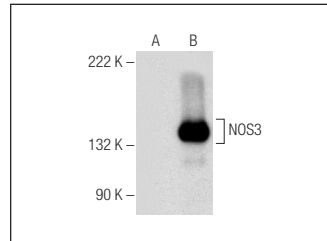
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

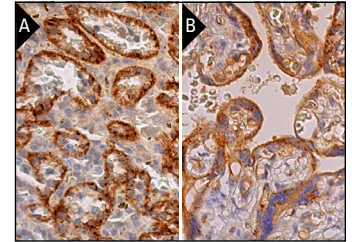
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



NOS3 (C-6): sc-376542. Western blot analysis of NOS3 expression in non-transfected: sc-117752 (A) and mouse NOS3 transfected: sc-122097 (B) 293T whole cell lysates.



NOS3 (C-6): sc-376542. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic and membrane staining of endothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (B).

## SELECT PRODUCT CITATIONS

- Wang, Y., et al. 2017. Nebivolol alleviates aortic remodeling through eNOS upregulation and inhibition of oxidative stress in L-NAME-induced hypertensive rats. *Clin. Exp. Hypertens.* 39: 628-639.
- Yang, J., et al. 2018. The interaction between XBP1 and eNOS contributes to endothelial cell migration. *Exp. Cell Res.* 363: 262-270.
- Pandey, D., et al. 2018. Hypoxia triggers SENP1 (sentrin-specific protease 1) modulation of KLF15 (Krüppel-like factor 15) and transcriptional regulation of Arg2 (arginase 2) in pulmonary endothelium. *Arterioscler. Thromb. Vasc. Biol.* 38: 913-926.
- Nasirzadeh, M., et al. 2019. Crocetin promotes angiogenesis in human endothelial cells through PI3K-Akt-eNOS signaling pathway. *EXCLI J.* 18: 936-949.
- Maity, B., et al. 2019. Malabaricone C attenuates NSAID-induced gastric ulceration by reducing oxidative/nitritative stress and inflammation and promoting angiogenic autohealing. *Antioxid. Redox Signal.* 32: 766-784.
- Abdel Hamid, O.I., et al. 2020. The molecular mechanisms of lithium-induced cardiotoxicity in male rats and its amelioration by N-acetyl cysteine. *Hum. Exp. Toxicol.* 39: 696-711.
- Hori, D., et al. 2020. Endothelial-specific overexpression of histone deacetylase 2 protects mice against endothelial dysfunction and atherosclerosis. *Cell. Physiol. Biochem.* 54: 947-958.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.