

# NOS3 (N-20): sc-653

## 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 ecNOS), 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 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of NOS3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-653 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NOS3 (N-20) is recommended for detection of NOS3 (ecNOS) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with RBM42.

NOS3 (N-20) is also recommended for detection of NOS3 (ecNOS) in additional species, including porcine.

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

Molecular Weight of NOS3: 140 kDa.

Positive Controls: A549 cell lysate: sc-2413, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

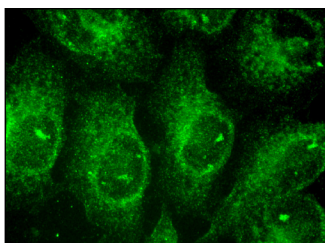
## STORAGE

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

## RESEARCH USE

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

## DATA



NOS3 (N-20): sc-653. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Golledge, J., et al. 1997. Circumferential deformation and shear stress induce differential responses in saphenous vein endothelium exposed to arterial flow. *J. Clin. Invest.* 99: 2719-2726.
- Ceradini, D.J., et al. 2008. Decreasing intracellular superoxide corrects defective ischemia-induced new vessel formation in diabetic mice. *J. Biol. Chem.* 283: 10930-10938.
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- Tanaka, J., et al. 2009. Foxo1 links hyperglycemia to LDL oxidation and endothelial nitric oxide synthase dysfunction in vascular endothelial cells. *Diabetes* 58: 2344-2354.
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- Knox, L.T., et al. 2011. Scopolamine impairs behavioural function and arginine metabolism in the rat dentate gyrus. *Neuropharmacology* 61: 1452-1462.
- Novella, S., et al. 2012. Estradiol, acting through estrogen receptor  $\alpha$ , restores dimethylarginine dimethylaminohydrolase activity and nitric oxide production in oxLDL-treated human arterial endothelial cells. *Mol. Cell. Endocrinol.* 365: 11-16.



Try **NOS3 (A-9): sc-376751** or **NOS3 (C-6): sc-376542**, our highly recommended monoclonal alternatives to NOS3 (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **NOS3 (A-9): sc-376751**.