SANTA CRUZ BIOTECHNOLOGY, INC.

NOS3 (C-20): sc-654

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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_2) 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^{2+}/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^{2+}-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-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of NOS3 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-654 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-654 AC, 500 µg/ 0.25 ml agarose in 1 ml., HRP conjugate for Western blotting, sc-654 HRP, 200 µg/1 ml., fluorescein (sc-654 FITC) or rhodamine (sc-654 TRITC) conjugates for immunofluorescence, 200 µg/1 ml., Alexa Fluor® 405 (sc-654 AF405), Alexa Fluor® 488 (sc-654 AF488) or Alexa Fluor® 647 (sc-654 AF647) conjugates for immunofluorescence; 100 µg/2 ml.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

NOS3 (C-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), 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).

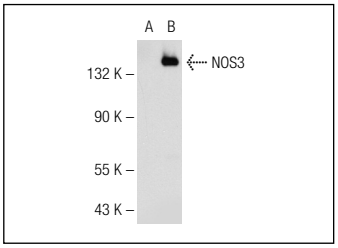
Suitable for use as control antibody for NOS3 siRNA (h): sc-36093, NOS3 siRNA (m): sc-36094, NOS3 shRNA Plasmid (h): sc-36093-SH, NOS3 shRNA Plasmid (m): sc-36094-SH, NOS3 shRNA (h) Lentiviral Particles: sc-36093-V and NOS3 shRNA (m) Lentiviral Particles: sc-36094-V.

Molecular Weight of NOS3: 140 kDa.

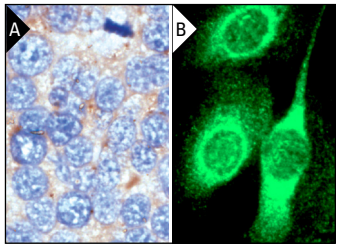
STORAGE

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

DATA



NOS3 (C-20): sc-654. 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-20): sc-654. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human ovary tumor (**A**) and immunofluorescence staining of methanol-fixed A549 cells (**B**) showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Kastenbauer, S., et al. 2001. Reactive nitrogen species contribute to blood-labyrinth barrier disruption in suppurative labyrinthitis complicating experimental pneumococcal meningitis in the rat. Brain Res. 904: 208-217.
2. Donovan, M., et al. 2001. Light-induced photoreceptor apoptosis *in vivo* requires neuronal nitric-oxide synthase and guanylate cyclase activity and is caspase-3-independent. J. Biol. Chem. 276: 23000-23008.
3. Santoro, G., et al. 2001. Nitric oxide synthase patterns in normal and varicocele testis in adolescents. BJU Int. 88: 967-973.
4. Hou, H.H., et al. 2012. N-terminal domain of soluble epoxide hydrolase negatively regulates the VEGF-mediated activation of endothelial nitric oxide synthase. Cardiovasc. Res. 93: 120-129.
5. El Ghazi F, et al. 2012. NO-dependent protective effect of VEGF against excitotoxicity on layer VI of the developing cerebral cortex. Neurobiol. Dis. 45: 871-886.
6. González, R., et al. 2012. Targeting hepatoma using nitric oxide donor strategies. Antioxid. Redox Signal. 18:491-506.
7. Grutzmacher, C., et al. 2013. Aberrant production of extracellular matrix proteins and dysfunction in kidney endothelial cells with a short duration of diabetes. Am. J. Physiol. Renal Physiol. 304: F19-F30.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

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