SANTA CRUZ BIOTECHNOLOGY, INC.

NOS2 (M-19): sc-650

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: Nos2 (mouse) mapping to 11 B5.

SOURCE

NOS2 (M-19) is available as either rabbit (sc-650) or goat (sc-650-G) polyclonal affinity purified antibody raised against a peptide mapping near the C-terminus of NOS2 of mouse 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-650 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-650 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

NOS2 (M-19) is recommended for detection of NOS2 (iNOS) of mouse and rat 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).

Suitable for use as control antibody for NOS2 siRNA (m): sc-36092, NOS2 shRNA Plasmid (m): sc-36092-SH and NOS2 shRNA (m) Lentiviral Particles: sc-36092-V.

Molecular Weight of NOS2: 130 kDa.

Positive Controls: RAW 264.7 + LPS/PMA cell lysate: sc-2212 or RAW 264.7 + LPS/IFN-γ cell lysate: sc-24767.

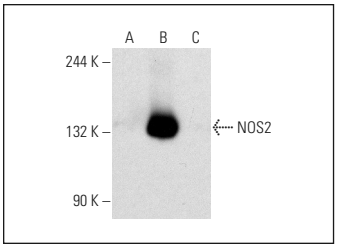
STORAGE

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

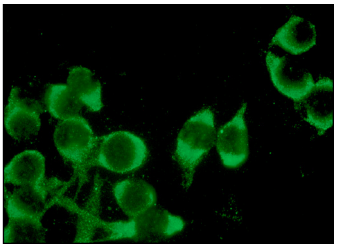
RESEARCH USE

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

DATA



NOS2 (M-19): sc-650. Western blot analysis of NOS2 expression in Raw 264.7 (**A**), LPS treated Raw 264.7 (**B**) and LPS and Tanshinone IIA (sc-200932) treated Raw 264.7 (**C**) whole cell lysates.



NOS2 (M-19): sc-650. Immunofluorescence staining of methanol-fixed RAW 264.7 cells stimulated with LPS/IFN-γ showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Rieger, J., et al. 1998. Synthesis and biological effects of NO in malignant glioma cells: modulation by cytokines including CD95L and TGFβ, dexamethasone, and p53 gene transfer. Oncogene 17: 2323-2332.
2. López-Peláez, M., et al. 2011. Cot/tpl2 activity is required for TLR-induced activation of the Akt p70 S6k pathway in macrophages: implications for NO synthase 2 expression. Eur. J. Immunol. 41: 1733-1741.
3. Kilic, U., et al. 2012. Evidence that membrane-bound G protein-coupled melatonin receptors MT1 and MT2 are not involved in the neuroprotective effects of melatonin in focal cerebral ischemia. J. Pineal Res. 52: 228-235.
4. Tsai, K.D., et al. 2012. Differential effects of LY294002 and wortmannin on inducible nitric oxide synthase expression in glomerular mesangial cells. Int. Immunopharmacol. 12: 471-480.
5. Fernández-Velasco, M., et al. 2012. NOD1 activation induces cardiac dysfunction and modulates cardiac fibrosis and cardiomyocyte apoptosis. PLoS ONE 7: e45260.
6. Copin, R., et al. 2012. *In situ* microscopy analysis reveals local innate immune response developed around *Brucella* infected cells in resistant and susceptible mice. PLoS Pathog. 8: e1002575.
7. Chen, X., et al. 2013. S-nitrosylated protein disulfide isomerase contributes to mutant SOD1 aggregates in amyotrophic lateral sclerosis. J. Neurochem. 124: 45-58.
8. Lind, K.R., et al. 2013. The unfolded protein response to endoplasmic reticulum stress in cultured astrocytes and rat brain during experimental diabetes. Neurochem. Int. 62: 784-795.