SANTA CRUZ BIOTECHNOLOGY, INC.

NOS2 (C-19): sc-649

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 (human) mapping to 17q11.2; Nos2 (mouse) mapping to 11 B5.

SOURCE

NOS2 (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of NOS2 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-649 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NOS2 (C-19) is recommended for detection of NOS2 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 NOS2 siRNA (h): sc-29417, NOS2 siRNA (m): sc-36092, NOS2 shRNA Plasmid (h): sc-29417-SH, NOS2 shRNA Plasmid (m): sc-36092-SH, NOS2 shRNA (h) Lentiviral Particles: sc-29417-V and NOS2 shRNA (m) Lentiviral Particles: sc-36092-V.

Molecular Weight of NOS2: 130 kDa.

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

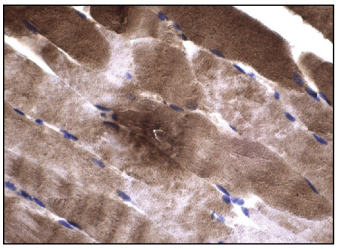
STORAGE

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 (C-19): sc-649. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Chou, S.M., et al. 1996. Colocalization of NOS and SOD1 in neurofilament accumulation within motor neurons of amyotrophic lateral sclerosis: an immunohistochemical study. J. Chem. Neuroanat. 10: 249-258.
2. Gangoiti, P., et al. 2008. Involvement of nitric oxide in the promotion of cell survival by ceramide 1-phosphate. FEBS Lett. 582: 2263-2269.
3. Lee, J., et al. 2009. Differential regulation of neuronal and inducible nitric oxide synthase (NOS) in the spinal cord of mutant SOD1 (G93A) ALS mice. Biochem. Biophys. Res. Commun. 387: 202-206.
4. Dresing, P., et al. 2010. A fluorescence reporter model defines "Tip-DCs" as the cellular source of interferon β in murine listeriosis. PLoS ONE 5: e15567.
5. Edwards, J.L. 2010. Neisseria gonorrhoeae survival during primary human cervical epithelial cell infection requires nitric oxide and is augmented by progesterone. Infect. Immun. 78: 1202-1213.
6. Kim, S.S., et al. 2012. Licochalcone E activates Nrf2/antioxidant response element signaling pathway in both neuronal and microglial cells: therapeutic relevance to neurodegenerative disease. J. Nutr. Biochem. 23: 1314-1323.
7. Khan, S. and Jena, G. 2014. Sodium butyrate, a HDAC inhibitor ameliorates eNOS, iNOS and TGF-β1-induced fibrogenesis, apoptosis and DNA damage in the kidney of juvenile diabetic rats. Food Chem. Toxicol. 73: 127-139.
8. Jeong, Y., et al. 2014. Histone deacetylase isoforms regulate innate immune responses by deacetylating mitogen-activated protein kinase phosphatase-1. J. Leukoc. Biol. 95: 651-659.