SANTA CRUZ BIOTECHNOLOGY, INC.

NOS2 (C-11): sc-7271

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.

REFERENCES

1. Schmidt, H.H.H.W. and Walter, U. 1994. NO at work. Cell 78: 919-925.
2. Farias-Eisner, R., et al. 1994. Nitric oxide is an important mediator for tumoricidal activity *in vivo*. Proc. Natl. Acad. Sci. USA 91: 9407-9411.

CHROMOSOMAL LOCATION

Genetic locus: NOS2 (human) mapping to 17q11.2; Nos2 (mouse) mapping to 11 B5.

SOURCE

NOS2 (C-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1120-1145 near the C-terminus of NOS2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NOS2 (C-11) is available conjugated to agarose (sc-7271 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7271 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7271 PE), fluorescein (sc-7271 FITC), Alexa Fluor® 488 (sc-7271 AF488), Alexa Fluor® 546 (sc-7271 AF546), Alexa Fluor® 594 (sc-7271 AF594) or Alexa Fluor® 647 (sc-7271 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7271 AF680) or Alexa Fluor® 790 (sc-7271 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, NOS2 (C-11) is available conjugated to either TRITC (sc-7271 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-7271 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-7271 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

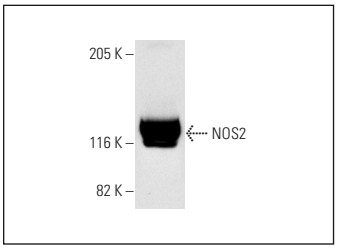
NOS2 (C-11) is recommended for detection of NOS2 (iNOS) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) 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 siRNA (r): sc-270512, NOS2 shRNA Plasmid (h): sc-29417-SH, NOS2 shRNA Plasmid (m): sc-36092-SH, NOS2 shRNA Plasmid (r): sc-270512-SH, NOS2 shRNA (h) Lentiviral Particles: sc-29417-V, NOS2 shRNA (m) Lentiviral Particles: sc-36092-V and NOS2 shRNA (r) Lentiviral Particles: sc-270512-V.

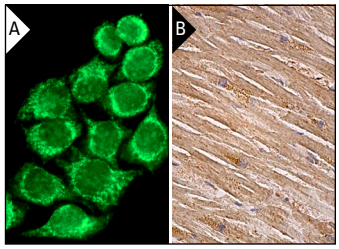
Molecular Weight of NOS2: 130 kDa.

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

DATA



NOS2 (C-11): sc-7271. Western blot analysis of NOS2 expression in LPS and γ-interferon treated RAW 264.7 whole cell lysate.



NOS2 (C-11) Alexa Fluor® 488: sc-7271 AF488. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Teitelbaum, R., et al. 1999. The M cell as a portal of entry to the lung for the bacterial pathogen *Mycobacterium tuberculosis*. Immunity 10: 641-650.
2. Jin, Q., et al. 2018. Macrophages in keloid are potent at promoting the differentiation and function of regulatory T cells. Exp. Cell Res. 362: 472-476.
3. Dai, D., et al. 2019. Peli1 controls the survival of dopaminergic neurons through modulating microglia-mediated neuroinflammation. Sci. Rep. 9: 8034.
4. Ju, H., et al. 2020. TLR4 activation leads to anti-EGFR therapy resistance in head and neck squamous cell carcinoma. Am. J. Cancer Res. 10: 454-472.

RESEARCH USE

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