SANTA CRUZ BIOTECHNOLOGY, INC.

p-NOS1 (Ser 852): sc-19826

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. Nathan, C., et al. 1994. Nitric oxide synthases: roles, tolls and controls. Cell 78: 915-918.
2. Schmidt, H.H., et al. 1994. NO at work. Cell 78: 919-925.
3. Heiss, L.N., et al. 1994. Epithelial autotoxicity of nitric oxide: role in the respiratory cytopathology of pertussis. Proc. Natl. Acad. Sci. USA 91: 267-270.
4. 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.
5. Marietta, M.A. 1994. Nitric oxide synthase: aspects concerning structure and catalysis. Cell 78: 927-930.
6. Kamijo, R., et al. 1994. Requirement for transcription factor IRF-1 in NO synthase induction in macrophages. Science 263: 1612-1615.

CHROMOSOMAL LOCATION

Genetic locus: NOS1 (human) mapping to 12q24.22; Nos1 (mouse) mapping to 5 F.

SOURCE

p-NOS1 (Ser 852) is available as either goat (sc-19826) or rabbit (sc-19826-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 852 phosphorylated NOS1 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-19826 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p-NOS1 (Ser 852) is recommended for detection of Ser 852 phosphorylated NOS1 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).

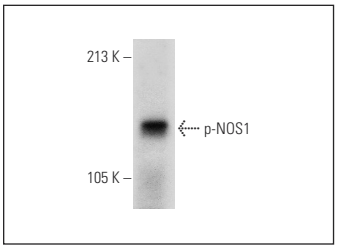
p-NOS1 (Ser 852) is also recommended for detection of correspondingly phosphorylated NOS1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NOS1 siRNA (h): sc-29416, NOS1 siRNA (m): sc-36091, NOS1 siRNA (r): sc-108067, NOS1 shRNA Plasmid (h): sc-29416-SH, NOS1 shRNA Plasmid (m): sc-36091-SH, NOS1 shRNA Plasmid (r): sc-108067-SH, NOS1 shRNA (h) Lentiviral Particles: sc-29416-V, NOS1 shRNA (m) Lentiviral Particles: sc-36091-V and NOS1 shRNA (r) Lentiviral Particles: sc-108067-V.

Molecular Weight of p-NOS1: 155 kDa.

Positive Controls: A-673 cell lysate: sc-2414 or rat testis extract: sc-2400.

DATA



p-NOS1 (Ser 852): sc-19826. Western blot analysis of p-NOS1 expression in rat testis tissue extract.

SELECT PRODUCT CITATIONS

1. Gao, H., et al. 2009. Select nutrients in the ovine uterine lumen. V. nitric oxide synthase, GTP cyclohydrolase, and ornithine decarboxylase in ovine uteri and periimplantation conceptuses. Biol. Reprod. 81: 67-76.
2. Mezghenna, K., et al. 2011. Increased neuronal nitric oxide synthase dimerisation is involved in rat and human pancreatic β cell hyperactivity in obesity. Diabetologia 54: 2856-2866.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.