

# p-NOS3 (Thr 495): sc-19827

## BACKGROUND

Nitric oxide (NO), produced by the endothelial NO synthase (NOS3), is a fundamental determinant of cardiovascular homeostasis that maintains system blood pressure, vascular remodeling and angiogenesis. NOS3 is stimulated, in a phosphatidylinositol 3-kinase (PI 3-kinase)-dependent fashion, by treatment of endothelial cells with Insulin-like growth factor-1 and vascular endothelial growth factor (VEGF). The serine/threonine protein kinase Akt/PKB is an important downstream target of PI 3-kinase, regulating VEGF-stimulated endothelial cell survival. NOS3 activation via phosphorylation of Serine 1177 by Akt/PKB is necessary and sufficient for VEGF-mediated endothelial cell migration. Therefore, Akt/PKB can directly phosphorylate NOS3 on Serine 1177, activating the enzyme and leading to NO production.

## REFERENCES

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- Komeima, K., et al. 2000. Inhibition of neuronal nitric-oxide synthase by calcium/calmodulin-dependent protein kinase II  $\alpha$  through Ser 847 phosphorylation in NG108-15 neuronal cells. *J. Biol. Chem.* 275: 28139-28143.

## CHROMOSOMAL LOCATION

Genetic locus: NOS3 (human) mapping to 7q36.1; Nos3 (mouse) mapping to 5 A3.

## SOURCE

p-NOS3 (Thr 495) is available as either goat (sc-19827) or rabbit (sc-19827-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Thr 495 phosphorylated NOS3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19827 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-NOS3 (Thr 495) is recommended for detection of Thr 495 phosphorylated NOS3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

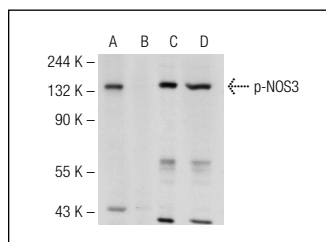
p-NOS3 (Thr 495) is also recommended for detection of correspondingly phosphorylated NOS3 in additional species, including equine, canine, bovine and porcine.

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 p-NOS3: 140 kDa.

Positive Controls: ECV304 cell lysate: sc-2269 or HUV-EC-C whole cell lysate: sc-364180.

## DATA



p-NOS (Thr 495): sc-19827. Western blot analysis of NOS3 phosphorylation in un-treated (**A,C**) and lambda protein phosphatase (sc-200312A) treated (**B,D**) HUV-EC-C whole cell lysates. Antibodies tested include p-NOS3 (Thr 495)-R: sc-19827-R (**A,B**) and NOS3 (C-20): sc-654 (**C,D**).

## SELECT PRODUCT CITATIONS

- Tepavcevic, S., et al. 2015. Cardiac nitric oxide synthases and Na<sup>+</sup>/K<sup>+</sup>-ATPase in the rat model of polycystic ovary syndrome induced by dihydrotestosterone. *Exp. Clin. Endocrinol. Diabetes* 123: 303-307.

## 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.

**MONOS**  
Satisfaction  
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Try **p-NOS3 (pT495.33): sc-136519**, our highly recommended monoclonal alternative to p-NOS3 (Thr 495).