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


CHROMOSOMAL LOCATION

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

SOURCE

p-NOS3 (15E2) is a mouse monoclonal antibody raised against a synthetic phosphopeptide corresponding to amino acid residues surrounding Ser 1177 of NOS3 of human origin.

PRODUCT

Each vial contains 50 µg IgG1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

p-NOS3 (15E2) is recommended for detection of Ser 1177 phosphorylated NOS3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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: pervanadate-treated bend 3 whole cell lysate or HUV-EC-C whole cell lysate: sc-364180.

STORAGE

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

DATA

p-NOS3 (15E2): sc-81510. Western blot analysis of NOS3 phosphorylation in untreated (A) and pervanadate-treated (B) bend 3 whole cell lysates.

SELECT PRODUCT CITATIONS


RESEARCH USE

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