



Qty: 50µg/200 µL

## Rabbit anti-phospho-eNOS (Ser1179)

For Research Use Only

Catalog No. 36-9100

Lot No.

### Rabbit anti-phospho-eNOS (Ser1179)

#### FORM

This polyclonal antibody is supplied as a 200 µl aliquot at a concentration of 0.25 mg/ml in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.279

#### IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the bovine eNOS (endothelial nitric oxide synthase, NOS III) protein, phosphorylated at Ser1179.

#### SPECIFICITY

This antibody is specific for the bovine eNOS protein, phosphorylated at Ser1179. On Western blots, it identifies a single band at ~135 kDa.

#### REACTIVITY

Reactivity has been confirmed with VEGF-stimulated, serum-starved BAEC (bovine aortic endothelial cell) lysates. A very low signal was observed in the lysates of serum-starved, unstimulated BAEC, and no signal was observed in lysates of unstimulated BAEC in the presence of serum. Based on amino acid sequence homology, cross-reactivity with human, rat, mouse, dog, pig, and guinea pig is expected.

Sample	Western Blotting	ELISA
Bovine	+++	ND
Human	ND	ND
Immunogen	N/A	+++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

#### USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

**ELISA:** 0.1-1µg/mL  
**Western Blotting:** 1-3 µg/mL  
**Immunofluorescence<sup>(1)</sup>:** Per Fulton D, et al. 2002 publication, this antibody is reactive with monkey COS cells in immunofluorescence assays.

#### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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(Rev 10/08) DCC-08-1089

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**BACKGROUND**

The oxidation of L-arginine by a family of nitric oxide synthase (NOS) isoenzymes, nNOS, eNOS, and iNOS, is responsible for the production of nitric oxide (NO). In mammalian genomes, three separate genes encode the NOS isoforms, two expressed constitutively (nNOS, eNOS), and one inducible (iNOS). Endothelial NOS (eNOS, NOS III) is expressed in endothelial cells, some neurons, and cardiac myocytes, and is responsible for cardiovascular homeostatic processes, including blood pressure regulation, vessel remodeling, and angiogenesis.<sup>1</sup>

eNOS undergoes a unique translocation cycle between the plasma membrane and the cytoplasm, suggesting that its intracellular localization is important in linking stimuli to eNOS enzymatic activity. Phosphorylation of the protein at several sites also plays a regulatory role. Phosphorylation of eNOS at Ser1179 in response to stimulation by VEGF has been observed to enhance eNOS activity, increasing the production of NO,<sup>1</sup> while phosphorylation at Thr497 in combination with dephosphorylation at Ser1179 inhibits eNOS activity.<sup>2</sup> Ser1179 (bovine)/Ser1177 (human) is the target residue for phosphorylation of multiple protein kinases, including Akt,<sup>3</sup> AMP kinase,<sup>4</sup> PKA and protein kinase G,<sup>5</sup> and CaM kinase II.<sup>6</sup>

**REFERENCES**

1. Fulton D, et al. *J Biol Chem* 277(6):4277-4284, 2002.
2. Michell BJ, et al. *J Biol Chem* 277(44):43244-42351, 2002.
3. Dimmeler S, et al. *Nature* 399(6736):601-605, 1999.
4. Chen ZP, et al. *FEBS Lett* 443(3):285-289, 1999.
5. Butt E, et al. *J Biol Chem* 275(7):5179-5187, 2000.
6. Fleming I, et al. *Circ Res* 88:e68-e75, 2001.

**RELATED PRODUCTS**

<b>Product</b>	<b>Clone/PAD*</b>	<b>Cat. No.</b>
Mouse anti-eNOS	eNOS-9D10	33-4600
Mouse anti-eNOS-HRP	eNOS-9D10	33-4620
Mouse anti-eNOS	eNOS-6C6	33-4500
Rabbit anti-iNOS	Z-JL8	61-7700
Rabbit anti-nNOS	Z-RNN3	61-7000
Mouse anti-Nitrotyrosine	HM11	32-1900
Rabbit anti-phospho-Akt (Ser473)	ZMD.234	34-8400
Mouse anti- $\alpha$ -CaM Kinase II	CB $\alpha$ -2	13-7300
Mouse anti- $\beta$ -CaM Kinase II	CB $\beta$ -1	13-9800
Rabbit anti-VEGF	Z-CVF3	18-0254
Mouse anti-VEGF	VG1	18-7328
Mouse anti-Caveolin-1	ZO34	03-6000
Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

\*PAD: Polyclonal Antibody Designation

<b>Conjugate</b>	<b>ZyMAX<sup>™</sup> Goat x Rabbit IgG (H+L)</b>	<b>ZyMAX<sup>™</sup> Goat x Mouse IgG (H+L)</b>
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy <sup>™</sup> 3	81-6115	81-6515
Cy <sup>™</sup> 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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