

Polyclonal Anti- Nitric Oxide Synthase 2, inducible NOS, **NOS2**

Catalogue No. PA1330

Lot No. 0131012c013064

Ig type rabbit IgG

Size 100µg/vial

Form lyophilized

Specificity

Human, mouse, rat.

No cross reactivity with other proteins.

Recommended application

Western blot

Immunohistochemistry(P)

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminal of human NOS2(1110-1124aa VEDYFFQLKSQKRYH), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Application

	Concentration	Tested Species	Concluded Species	Antigen Retrieval
WB	0.1-0.5µg/ml	Hu,Rat	Ms	-
IHC-P	0.5-1µg/ml	Hu	Rat,Ms	By Heat

Other applications have not been tested.

Optimal dilutions should be determined by end user.

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Reconstitution

0.2ml of distilled water will yield a concentration of 500µg/ml.

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time.

Avoid repeated freezing and thawing.

Relevant detection systems

Boster provides a series of assays reacted with primary antibodies. Antibody can be supported by chemiluminescence kit EK1002 in WB, supported by SA1022 in IH.

BACKGROUND

Nitric oxide synthase, inducible is an enzyme that in humans is encoded by the *NOS2* gene. Nitric oxide (NO) is a messenger molecule with diverse functions throughout the body. In the brain and peripheral nervous system, NO displays many properties of a neurotransmitter; it is implicated in neurotoxicity associated with stroke and neurodegenerative diseases, neural regulation of smooth muscle, including peristalsis, and penile erection. Three different NOS isoforms have been identified which fall into two distinct types, constitutive and inducible. The inducible NOS (iNOS) isoform is expressed in a variety of cell types and tissues in response to inflammatory agents and cytokines. The human iNOS (*NOS2*) gene is approximately 37 kb in length and consists of 26 exons and 25 introns. Diefenbach et al. (1999) studied the relationship of IL12 and nitric oxide synthase-2 (*NOS2*) to innate immunity to the parasite *Leishmania* in mice. And conclude that *NOS2*-derived NO is a prerequisite for cytokine signaling and function in innate immunity. From studies in Tanzania and Kenya, Hobbs et al. (2002) identified a novel single-nucleotide polymorphism, -1173C-T (163730.0001), in the *NOS2* promoter that was significantly associated with protection from symptomatic malaria and severe malarial anemia.

REFERENCE

1. Chartrain, N. A., Geller, D. A., Koty, P. P., Sitrin, N. F., Nussler, A. K., Hoffman, E. P., Billiar, T. R., Hutchinson, N. I., Mudgett, J. S. Molecular cloning, structure, and chromosomal localization of the human inducible nitric oxide synthase gene. *J. Biol. Chem.* 269: 6765-6772, 1994.
2. Diefenbach, A., Schindler, H., Rollinghoff, M., Yokoyama, W. M., Bogdan, C. Requirement for type 2 NO synthase for IL-12 signaling in innate immunity. *Science* 284: 951-955, 1999.
3. Hobbs, M. R., Udhayakumar, V., Levesque, M. C., Booth, J., Roberts, J. M., Tkachuk, A. N., Pole, A., Coon, H., Kariuki, S., Nahlen, B. L., Mwaikambo, E. D., Lai, A. L., Granger, D. L., Anstey, N. M., Weinberg, J. B. A new *NOS2* promoter polymorphism associated with increased nitric oxide production and protection from severe malaria in Tanzanian and Kenyan children. *Lancet* 360: 1468-1475, 2002.