

Product Information



iNOS Polyclonal Antibody

Item No. 160862 • Lot No. XXXXXX

Synonyms:	Inducible Nitric Oxide Synthase; NOS II
Contents:	This vial contains XX µg protein A-purified IgG, lyophilized from TBS, pH 7.4
Host:	Rabbit
Antigen:	Purified iNOS from cytokine-induced murine macrophages (RAW 264.7 cells)
Cross-reactivity:	(+) iNOS from most mammalian species and nNOS (~5%); (-) eNOS
Stability:	≥1 year at -20°C
Applications:	Immunocytochemistry and Western blot recommended starting dilution: 1:1,000 from a 100 µl aqueous stock. ¹⁻³

Laboratory Procedures

This vial contains XX µg of protein-A purified IgG. For long term storage, we suggest the antibody be stored as supplied at -20°C; it will be stable for at least one year. For immunoblotting experiments, dissolve the contents with 100 µl distilled water and then dilute 10 µl of the antibody to 10 ml (1:1,000) with any buffer suitable for your experiment. Higher dilutions of the antibody may be necessary if high background is evident, particularly when using ECL. For other applications the working concentration of the antibody must be determined empirically.

Nitric Oxide Synthase (NOS) catalyzes the biosynthesis of nitric oxide from L-arginine. Constitutively expressed NOS is found in brain (nNOS) and endothelial cells (eNOS). iNOS is a soluble enzyme found in a variety of tissues including macrophages, hepatocytes, vascular smooth muscle cells, and chondrocytes.^{4,5} iNOS expression is increased by a variety of factors including LPS, IFN-γ, IL-1β, and TNF-α, whereas expression is decreased by dexamethasone.⁶⁻¹⁰ The enzyme has been cloned from several species including mouse, rat, and human with homology of at least 80% between these species.⁵ The calculated molecular weight of the protein from the deduced amino acid sequence is 130,000 - 131,000.⁴

References

1. Herencia, F, Ferrándiz, M.L., Ubeda, A., *et al.* Novel anti-inflammatory chalcone derivatives inhibit the induction of nitric oxide synthase and cyclooxygenase-2 in mouse peritoneal macrophages. *FEBS Lett.* **453**, 129-134 (1999).
2. Smith, F.S. and Titheradge, M.A. Detection of NOS isoforms by western-blot analysis. *Methods in Molecular Biology* **100**, 171-180 (1998).
3. Hayes, J.D. and McLellan, L.I. Glutathione and glutathione-dependent enzymes represent a co-ordinately regulated defence against oxidative stress. *Free Rad. Res.* **31**, 273-300 (1999).
4. Knowles, R.G. and Moncada, S. Nitric oxide synthases in mammals. *Biochem. J.* **298**, 249-258 (1994).
5. Michel, T., Xie, Q., Nathan, C. Molecular biological analysis of nitric oxide synthases, Chapter 10, in *Methods in nitric oxide research*. Feelisch, M. and Stamler, J.S. editors. John Wiley & Sons, Chichester, 161-175 (1996).
6. Lorsbach, R.B., Murphy, W.J., Lowenstein, C.J., *et al.* Expression of the nitric oxide synthase gene in mouse macrophages activated for tumor cell killing. Molecular basis for the synergy between interferon-γ and lipopolysaccharide. *J. Biol. Chem.* **268**, 1908-1913 (1993).
7. Balligand, J., Ungureanu-Longrois, D., Simmons, W.W., *et al.* Cytokine-inducible nitric oxide synthase (iNOS) expression in cardiac myocytes. Characterization and regulation of iNOS expression and detection of iNOS activity in single cardiac cyocytes *in vivo*. *J. Biol. Chem.* **269**, 27580-27588 (1994).
8. Schmidt, H.H.H.W., Warner, T.D., Nakane, M., *et al.* Regulation and subcellular location of nitrogen oxide synthases in RAW264.7 macrophages. *Mol. Pharmacol.* **41**, 615-624 (1992).
9. Ogura, T. and Esumi, H. Nitric oxide synthase expression in human neuroblastoma cell line induced by cytokines. *Mol. Neurosci.* **7**, 853-856 (1996).
10. Walker, G., Pfeilschifter, J., and Kunz, D. Mechanism of suppression of inducible nitric-oxide synthase (iNOS) expression in interferon (IFN)-γ-stimulated RAW 264.7 cells by dexamethasone. Evidence for glucocorticoid-induced degradation of iNOS protein by calpain as a key step in post-transcriptional regulation. *J. Biol. Chem.* **271**, 16679-16687 (1996).

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