Nitric Oxide Synthase, Inducible from mouse, Recombinant

Cat. No. NATE-0489

Lot. No. (See product label)

Introduction

Description	Nitric oxide synthases (NOSs) are a family of enzymes catalyzing the production of nitric oxide (NO) from L-arginine. NO is an important cellular signaling molecule. It helps modulate vascular tone, insulin secretion, airway tone, and peristalsis, and is involved in angiogenesis and neural development. It may function as a retrograde neurotransmitter. Nitric oxide is mediated in mammals by the calcium-calmodulin controlled isoenzymes eNOS (endothelial NOS) and nNOS (neuronal NOS). The inducible isoform, iNOS, is involved in immune response, binds calmodulin at physiologically relevant concentrations, and produces NO as an immune defense mechanism, as NO is a free radical with an unpaired electron. It is the proximate cause of septic shock and may function in autoimmune disease.
Synonyms	nitric oxide synthetase; endothelium-derived relaxation factor-forming enzyme; endothelium-derived relaxing factor synthase; NO synthase; NADPH-diaphorase; nitric-oxide synthase (NADPH); Inducible Nitric Oxide Synthase; NOS II; iNOS; macNOS; EC 1.14.13.39; NOSs

Product Information

Species	Mouse
Source	E. coli
Form	buffered aqueous solution; Solution in 50 mM HEPES, pH 7.4, with 10% glycerol, 8 µM tetrahydrobiopterin
EC Number	EC 1.14.13.39
CAS No.	125978-95-2
Molecular Weight	mol wt 130 kDa (homodimer); mol wt 130 kDa (subunit, homodimer)
Pathway	Amoebiasis, organism-specific biosystem; Amoebiasis, conserved biosystem; Arginine and proline metabolism, organism-specific biosystem; Arginine and proline metabolism, conserved biosystem; Calcium signaling pathway, organism-specific biosystem; Calcium signaling pathway, conserved biosystem; Chagas disease (American trypanosomiasis), organism-specific biosystem
Function	FMN binding; Hsp90 protein binding; NADP binding; arginine binding; cAMP-dependent protein kinase regulator activity; calmodulin binding; flavin adenine dinucleotide binding; heme binding; iron ion binding; metal ion binding; nitric-oxide synthase activity; nitric-oxide synthase activity; oxidoreductase activity; protein binding; protein homodimerization activity; protein homodimerization activity; tetrahydrobiopterin binding
Unit Definition	One unit of enzyme produces 1 nmole of nitric oxide per minute at 37°C in 50 mM HEPES, pH 7.4, containing 4.5 µM oxyhemoglobin, 0.15 mM NADPH, 1 mM arginine, 1 mM magnesium acetate, 18 µM tetrahydrobiopterin, and 180 µM DTT.

Storage and Shipping Information

Storage	−70°C

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