

Recombinant Human Nitric Oxide Synthase 1 (Neuronal)

Cat. No. NOS1-612H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human NOS2 was produced in <i>E.coli</i> . MW = ~80kDa.
Species	Human
Source	E.coli
Description	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. NO is also responsible for endothelium-derived relaxing factor activity regulating blood pressure. In macrophages, NO mediates tumoricidal and bactericidal actions, as indicated by the fact that inhibitors of NO synthase (NOS) block these effects. Neuronal NOS and macrophage NOS are distinct isoforms.[3] Both the neuronal and the macrophage forms are unusual among oxidative enzymes in requiring several electron donors: FAD, flavin mononucleotide (FMN), NADPH, and tetrahydrobiopterin.
Purity	≥90% (SDS-PAGE and heme spectral analysis).
Formulation	Liquid. In 40mM bis-tris-propane, pH 7.8, containing 150mM sodium chloride and 0.1% BSA.
Concentration	10mg/ml.

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Specific Activity ≥35nmol/mg/mol protein. Amount assayed 150–500nM. Optimal conditions: 37°C, 40mM EPPS buffer, pH 7.6, 1mM NOHA, 0.5mM DTT, 30mM H₂O₂, 10units/ml superoxide dismutase, 0.5mg/ml BSA and variable concentrations of tetrahydrobiopterin (0–1"000mM) in a final volume of 100ml. Reactions were initiated by 30mM H₂O₂ and stopped by 1"500 units of catalase.

Storage Stable for at least 1 year after receipt when stored at -80°C. Keep stock vial on ice at all times! Avoid freeze/thaw cycles. After reconstitution, prepare aliquots and store at -80°C.

GENE INFORMATION

Gene Name [NOS1 nitric oxide synthase 1 \(neuronal\) \[Homo sapiens \]](#)

Synonyms NOS1; nitric oxide synthase 1 (neuronal); NOS; nNOS; IHPS1; nitric oxide synthase, brain; bNOS; N-NOS; NC-NOS; NOS type I; neuronal NOS; constitutive NOS; EC 1.14.13.39

Gene ID [4842](#)

mRNA Refseq [NM_000620](#)

Protein Refseq [NP_000611](#)

MIM [163731](#)

UniProt ID [P29475](#)

Chromosome Location 12q24.2-q24.31

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Pathway

Alzheimer"s disease; Amyotrophic lateral sclerosis; Arginine and proline metabolism; Calcium signaling pathway; Long-term depression; Metabolic pathways

Function

FAD binding; FMN binding; NADP or NADPH binding; arginine binding; cadmium ion binding; calmodulin binding; heme binding; metal ion binding; nitric-oxide synthase activity; oxidoreductase activity; protein binding; tetrahydrobiopterin binding

PDB rendering based on 1b8q.

