

Product Name: NOS1 Rabbit Polyclonal Antibody
Catalog #: APRab14802



Summary

Production Name	NOS1 Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	IF, WB, ELISA
Reactivity	Human, Mouse, Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	NOS1
Alternative Names	NOS1; Nitric oxide synthase; brain; Constitutive NOS; NC-NOS; NOS type I; Neuronal NOS; N-NOS; nNOS; Peptidyl-cysteine S-nitrosylase NOS1; bNOS
Gene ID	4842.0
SwissProt ID	P29475. The antiserum was produced against synthesized peptide derived from human nNOS. AA range: 818-867

Application

Dilution Ratio	WB 1:500 - 1:2000. IF 1:200 - 1:1000. ELISA: 1:5000. Not yet tested in other applications.
Molecular Weight	130-160kD

Background

The protein encoded by this gene belongs to the family of nitric oxide synthases, which synthesize nitric oxide from L-arginine. Nitric oxide is a reactive free radical, which acts as a biologic mediator in several processes, including neurotransmission, and antimicrobial and antitumoral activities. In the brain and peripheral nervous system, nitric oxide displays many properties of a neurotransmitter, and has been implicated in neurotoxicity associated with stroke and neurodegenerative diseases, neural regulation of smooth muscle, including peristalsis, and penile erection. This protein is ubiquitously expressed, with high level of expression in skeletal muscle. Multiple transcript variants that differ in the 5' UTR have been described for this gene but the full-length nature of these transcripts is not known. Additionally, alternatively spliced transcript variants encoding different isoforms/alternative products: Isoform 3 is produced by different alternative splicing events implicating either the untranslated exons TEX1 (TN-NOS) or TEX1B (TN-NOSB) leading to a N-terminus truncated protein which possesses enzymatic activity comparable to that of isoform 1. The C-terminal truncated isoform 4 is produced by insertion of the TEX2 exon between exons 3 and 4 of isoform 1, leading to a frameshift and a premature stop codon, catalytic activity: L-arginine + n NADPH + n H(+) + m O(2) = citrulline + nitric oxide + n NADP(+), cofactor: Binds 1 FAD, cofactor: Binds 1 FMN, cofactor: Heme group, cofactor: Tetrahydrobiopterin (BH4). May stabilize the dimeric form of the enzyme, disease: Genetic variations in NOS1 gene are associated with susceptibility to infantile hypertrophic pyloric stenosis type 1 (IHPS1) [MIM:179010]. IHPS has an incidence of 1-5 per 1'000 live births in whites and a marked preponderance of males to females (4:1). IHPS is the most frequent disorder requiring surgery in the first year of life. The disorder is characterized by hypertrophy and hyperplasia of the circular muscle layer of the pylorus, leading to persistent vomiting 2-12 weeks after birth. Defective pyloric relaxation and increased pyloric smooth muscle mass have been suggested to be responsible for gastric-outlet obstruction, domain: The PDZ domain in the N-terminal part of the neuronal isoform participates in protein-protein interaction, and is responsible for targeting nNos to synaptic membranes in muscles, enzyme regulation: Stimulated by calcium/calmodulin. Inhibited by n-Nos-inhibiting protein (PIN) which may prevent the dimerization of the protein. Inhibited by NOSIP, function: Produces nitric oxide (NO) which is a messenger molecule with diverse functions throughout the body. In the brain and peripheral nervous system, NO displays many properties of a neurotransmitter, online information: Nitric oxide synthase entry, similarity: Belongs to the NOS family, similarity: Contains 1 FAD-binding FR-type domain, similarity: Contains 1 flavodoxin-like domain, similarity: Contains 1 PDZ (DHR) domain, subcellular location: In skeletal muscle, it is localized beneath the sarcolemma of fast-twitch muscle fiber by associating with the dystrophin glycoprotein complex. In neurons, enriched in dendritic spines, subunit: Homodimer. Interacts with DLG4; the interaction possibly being prevented by the association between NOS1 and CAPON. Forms a ternary complex with CAPON and RASD1. Forms a ternary complex with CAPON and SYN1. Interacts with ZDHHC23. Interacts with NOSIP; which may impair its synaptic location (By similarity). Interacts with HTR4, tissue specificity: Isoform 1 is ubiquitously expressed: detected in skeletal muscle and brain, also in testis, lung and kidney, and at low levels in heart, adrenal gland and retina. Not detected in the platelets. Isoform 3 is expressed only in testis. Isoform 4 is detected in testis, skeletal muscle, lung, and kidney, at low levels in the brain, but not in the heart and adrenal gland,

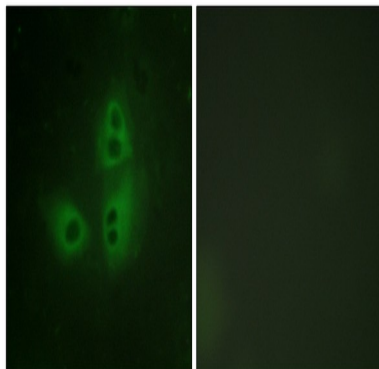
Research Area

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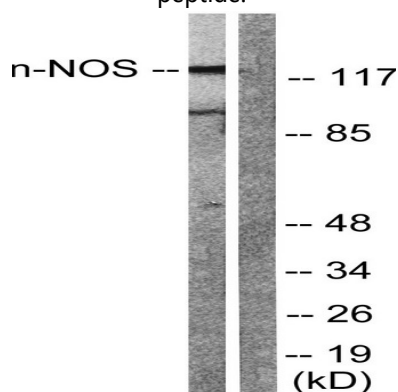


Arginine and proline metabolism;Calcium;Long-term depression;Alzheimer's disease;Amyotrophic lateral sclerosis (ALS);

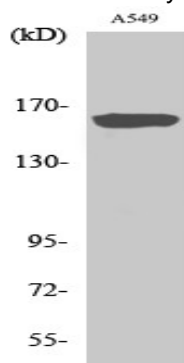
Image Data



Immunofluorescence analysis of HeLa cells, using nNOS Antibody. The picture on the right is blocked with the synthesized peptide.



Western blot analysis of lysates from Raw264.7 cells, treated with INF 2500u/ml 10³, using nNOS Antibody. The lane on the right is blocked with the synthesized peptide.



Western Blot analysis of various cells using NOS1 Polyclonal Antibody diluted at 1: 500

Note

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