G-Biosciences Image not found or type unknown

Immunotag™ NOS1 Polyclonal Antibody

Antibody Specification

Catalog No.	ITT3168
Product Description	Immunotag™ NOS1 Polyclonal Antibody
Size	50 µg, 100 µg
Conjugation	HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647
IMPORTANT NOTE	This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.
Target Protein	NOS1
Clonality	Polyclonal
Storage/Stability	-20°C/1 year
Application	WB,IHC-p,IF,ELISA
Recommended Dilution	Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/5000. Not yet tested in other applications.
Concentration	1 mg/ml
Reactive Species	Human,Mouse,Rat
Host Species	Rabbit
Immunogen	Synthesized peptide derived from NOS1, at AA range: 790-870
Specificity	NOS1 Polyclonal Antibody detects endogenous levels of NOS1 protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen
Form	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Gene Name	NOS1
Accession No.	P29475 Q9Z0J4 P29476
Alternate Names	NOS1; Nitric oxide synthase; brain; Constitutive NOS; NC-NOS; NOS type I; Neuronal NOS; N-NOS; nNOS; Peptidyl-cysteine S-nitrosylase NOS1; bNOS

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Description	nitric oxide synthase 1(NOS1) Homo sapiens 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
Cell Pathway/ Category	Arginine and proline metabolism,Calcium,Long-term depression,Alzheimer's disease,Amyotrophic lateral sclerosis (ALS),
Protein Expression	Brain,Cerebellum,Muscle,Retina,Testis,
Subcellular Localization	photoreceptor inner segment,cytoplasm,mitochondrion,cytosol,cytoskeleton,caveola,sarcoplasmic reticulum,Z disc,T-tubule,sarcoplasmic reticulum membrane,sarcolemma,dendritic spine,protein complex,membrane ra

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Protein Function	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.,
Usage	For Research Use Only! Not for diagnostic or therapeutic procedures.