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Phospho-nNOS(S1417) Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3677a

Product Information

Application	WB, DB, E
Primary Accession	P29475
Other Accession	P29476, O19132, Q9Z0J4
Reactivity	Human
Predicted	Mouse, Rat, Rabbit, Bovine, Canine, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21910
Calculated MW	160970

Additional Information

Gene ID	4842
Other Names	Nitric oxide synthase, brain, Constitutive NOS, NC-NOS, NOS type I, Neuronal NOS, N-NOS, nNOS, Peptidyl-cysteine S-nitrosylase NOS1, bNOS, NOS1
Target/Specificity	This nNOS Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S1417 of human nNOS.
Dilution	WB~~1:1000 DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Phospho-nNOS(S1417) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NOS1 (HGNC:7872)
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. Probably has nitrosylase

	activity and mediates cysteine S-nitrosylation of cytoplasmic target proteins such SRR.
Cellular Location	Cell membrane, sarcolemma {ECO:0000250|UniProtKB:Q9Z0J4}; Peripheral membrane protein. Cell projection, dendritic spine {ECO:0000250|UniProtKB:P29476}. Note=In skeletal muscle, it is localized beneath the sarcolemma of fast-twitch muscle fiber by associating with the dystrophin glycoprotein complex (By similarity) In neurons, enriched in dendritic spines (By similarity) {ECO:0000250|UniProtKB:P29476, ECO:0000250|UniProtKB:Q9Z0J4}
Tissue Location	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

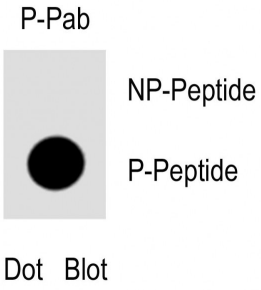
Background

Three isoforms of nitric oxide synthase (NOS) have been identified. All are homodimers with subunits of 130-160 kDa. All have binding sites for NADPH, FAD, and FMN near the carboxyl terminus (the reductase domain), and binding sites for tetrahydrobiopterin (BH4) and heme near the amino terminus (the oxygenase domain). The reductase and oxygenase domains are linked by a calmodulin (CaM) binding site. Occupation of this site facilitates electron transfer from the cofactors in the reductase domain to heme during nitric oxide production. NOS catalyzes the conversion of arginine to citrulline and nitric oxide (NO). Neuronal nitric oxide synthase (nNOS, bNOS, cNOS, Type I) is associated with the post-synaptic density protein (PSD-95) in the neuronal membrane. In response to increased intracellular Ca2+, nNOS interacts with CaM. The Ca2+ CaM complex, in combination with BH4, binds to nNOS and induces its translocation from the plasma membrane to the cytoplasm. The dephosphorylation of nNOS by calcineurin initiates the production NO. NO activates guanylyl cyclase (GC) and activates the various cGMP regulated signaling pathways. nNOS is in activated by phosphorylation by protein kinase A (PKA) or protein kinase C (PKC).

References

Laas,K., et.al., Psychopharmacology (Berl.) 209 (3), 255-261 (2010)
Darrah,R., et.al., Physiol. Genomics 41 (1), 71-77 (2010)

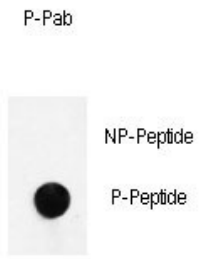
Images



Dot blot analysis of Phospho-nNOS(S1417) Antibody Phospho-specific Pab (Cat. AP3677a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antobodies working concentration was 0. 5ug per ml.

Dot blot analysis of anti-Phospho-nNOS-S1417 Phospho-specific Pab (Cat. #AP3677a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody

working concentrations are 0.5ug per ml.



Dot Blot

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.