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# Phospho-nNOS(S1417) Antibody Blocking peptide

**Synthetic peptide**
**Catalog # BP3677a**

## Specification

### Phospho-nNOS(S1417) Antibody Blocking peptide - Product Information

Primary Accession P29475

### Phospho-nNOS(S1417) Antibody Blocking peptide - 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**
The synthetic peptide sequence used to generate the antibody <a href=/products/AP3677a>AP3677a</a> was selected from the region of human Phospho-nNOS-S1417. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

### Phospho-nNOS(S1417) Antibody Blocking peptide - 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

## Phospho-nNOS(S1417) Antibody Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

## Phospho-nNOS(S1417) Antibody Blocking peptide - Images

## Phospho-nNOS(S1417) Antibody Blocking peptide - 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).

## Phospho-nNOS(S1417) Antibody Blocking peptide - References

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