Technical Data Sheet

Purified Mouse Anti-nNOS

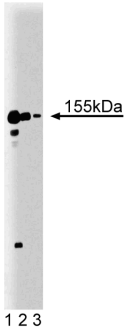
Product Information

Material Number:	**610308**
Alternate Name:	NOS Type I; Neuronal Nitric Oxide Synthase
Size:	50 µg
Concentration:	250 µg/ml
Clone:	16/nNOS/NOS Type I
Immunogen:	Human nNOS aa. 1095-1289
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Rat Tested in Development: Human, Mouse, Dog
Target MW:	155 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

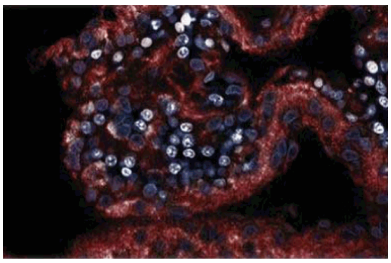
Description

Nitric oxide synthase (NOS), a cell-type specific enzyme, catalyzes the synthesis of nitric oxide (NO). NO is a short-lived radical that transmits cellular signals involved in vasorelaxation, neurotransmission, and cytotoxicity. In neurons and endothelial cells, constitutive NOS (cNOS) is activated by agonists that increase intracellular Ca2+ levels and enhance calmodulin binding. Neuronal NOS (nNOS or bNOS) and endothelial NOS (ECNOS) have recognition sites for NADPH, FAD, FMN, and calmodulin and are regulated in a similar manner. However, both have been shown to be distinct gene products of about 155 kDa and 140 kDa, respectively, and the human forms show 52% amino acid identity. Neuronal NOS and induced macrophage NOS (iNOS) share 51% amino acid homology with the greatest degree of divergence in the calmodulin binding domain. Neuronal NOS, a cytosolic protein present mainly in neural tissues, has been purified and characterized from rat cerebellum. The NO synthesized by this enzyme acts as a neurotransmitter. ECNOS has been cloned from human vascular endothelium as well as from bovine aortic endothelial cells (BAEC) and has a unique N-myristylation consensus sequence that may explain its membrane localization.

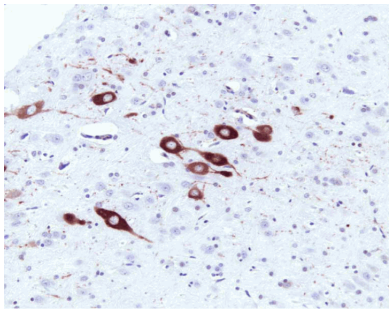
This antibody is routinely tested by western blot analysis. Other applications were tested in BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of nNOS on a rat pituitary lysate. *Lane 1: 1:2500, lane 2: 1: 5000, lane 3: 1: 10,000 dilution of the mouse anti-nNOS antibody.*



Immunofluorescence staining on a rabbit brain section.



Immunohistochemical staining of a formalin-fixed paraffin-embedded rat brain tissue section with no pre-treatment (20X magnification).

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunohistochemistry	Tested During Development
Immunoprecipitation	Not Recommended

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611463	Rat Cerebrum Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Bredt DS, Hwang PM, Glatt CE, Lowenstein C, Reed RR, Snyder SH. Cloned and expressed nitric oxide synthase structurally resembles cytochrome P-450 reductase. *Nature.* 1991; 351(6329):714.(Biology)

Nathan C. Nitric oxide as a secretory product of mammalian cells. *FASEB J.* 1992; 6(12):3051-3064.(Biology)

Sasaki M, Gonzalez-Zulueta M, Huang H. Dynamic regulation of neuronal NO synthase transcription by calcium influx through a CREB family transcription factor-dependent mechanism. *Proc Natl Acad Sci U S A.* 2000; 97(15):8617-8622.(Biology: Immunofluorescence, Western blot)

Schuh K, Uldrijan S, Telkamp M, Rothlein N, Neyses L. The plasmamembrane calmodulin-dependent calcium pump: a major regulator of nitric oxide synthase I. *J Cell Biol.* 2001; 155(2):201-205.(Biology: Immunoprecipitation, Western blot)

Yu Q, Shao R, Qian HS, George SE, Rockey DC. Gene transfer of the neuronal NO synthase isoform to cirrhotic rat liver ameliorates portal hypertension. *J Clin Invest.* 2000; 105(6):741-748.(Biology: Immunohistochemistry, Western blot)