abcam

ab76067

Anti-nNOS (neuronal) antibody [EP1855Y]

Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067) is a rabbit monoclonal antibody detecting nNOS (neuronal) in **Western Blot, Flow Cytometry (Intra), IP, ICC/IF**. Suitable for **Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 70 publications
- Trusted since 2009

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1855Y
Purification technique	Affinity purification Protein A
Concentration	3.006 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Rat
Dilution info	1/200
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Human, Common marmoset
Dilution info	-
Notes	-

IP

Tested

Species	Rat
Dilution info	1/150
Notes	**For unpurified use at 1/4.**

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Human, Common marmoset
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/2000
Notes	**For unpurified use at 1/100.**

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Human, Common marmoset
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human, Common marmoset
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/600
Notes	For unpurified use at 1/15. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Human, Common marmoset
Dilution info	-
Notes	-

Target data

See full target information Nitric oxide synthase, brain

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.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Mouse, Rat samples.

What is the molecular weight of nNOS (neuronal)?
Anti-nNOS (neuronal) [EP1855Y] (ab76067) specifically detects a band for nNOS (neuronal) (UniProt: P29475) at a molecular weight of 161kDa.

Trusted by the scientific community
Anti-nNOS (neuronal) [EP1855Y] (ab76067) was first used in a scientific publication in 2009 and has been cited over 70 times in peer-reviewed journals.

Reviewed by scientists
Anti-nNOS (neuronal) [EP1855Y] (ab76067) has over 10 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EP1855Y] also available for your convenience: ab76067, Alexa Fluor® 594 - ab198516, Carrier free - ab219373, Carrier free - ab271857

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	NNOS also known as nitric oxide synthase 1 or NOS1 is a critical enzyme in the nervous system. It catalyzes the production of nitric oxide from L-arginine. This enzyme weighing approximately 160 kDa is expressed in neurons and you can find it in regions like the brain and spinal cord. Notably nNOS is part of the NOS family which also includes eNOS and iNOS but its primary function is in neuronal tissues.
Biological function summary	NNOS plays a significant role in neurotransmission and neurovascular regulation. As a part of protein complexes nNOS closely interacts with other signaling molecules to modulate neuronal communication. The production of nitric oxide by

	nNOS acts as a neurotransmitter influencing brain functions such as synaptic plasticity and memory formation. Additionally due to its role in neuronal activity antibodies like anti-neuronal antibodies can have interactions that can be studied using various assays including the NOS assay.
Pathways	NNOS serves essential roles within the neuronal nitric oxide signaling pathway and the glutamatergic signaling pathway. In these contexts nNOS associates with proteins involved in cell signaling such as calmodulin which regulates its activity. By participating in these pathways nNOS contributes to the regulation of vascular tone and synaptic transmission linking it to neurological processes and supporting neuronal communication.
Associated diseases and disorders	NNOS shows significant connections to neurological disorders and cardiovascular diseases. In conditions like stroke and neurodegenerative diseases dysregulation of nNOS activity leads to excessive production of nitric oxide which can result in oxidative stress and neuronal damage. Furthermore its relation with eNOS in the cardiovascular system influences vascular function making it a critical player in hypertension studies. Understanding nNOS interactions through diseases highlights the possibility of targeted treatments using neuronal antibodies and anti-neuronal antibodies against specific pathways.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

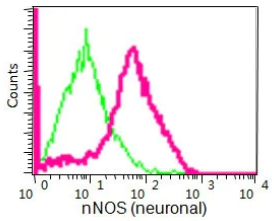
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

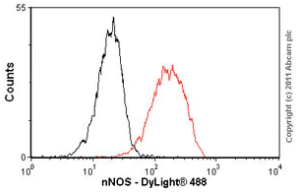
12 product images



Flow Cytometry (Intracellular) - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Flow Cytometry (Intracellular) staining using rabbit Anti-nNOS (neuronal) antibody

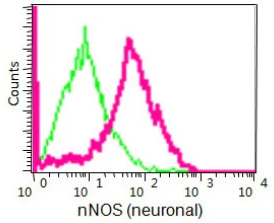
Intracellular Flow Cytometry analysis of PC-12 cells labelling nNos (neuronal) with unpurified ab76067 at 1/15 (red). Cells were fixed with 100% methanol. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Green - Isotype control, rabbit monoclonal IgG.



Flow Cytometry (Intracellular) - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Flow Cytometry (Intracellular) staining using rabbit Anti-nNOS (neuronal) antibody

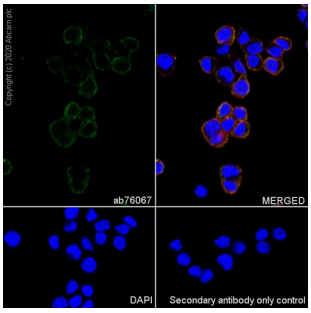
Overlay histogram showing PC-12 cells stained with unpurified ab76067 (red line). The cells were fixed with methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (unpurified ab76067, 1/50 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit monoclonal IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a slightly decreased signal in PC-12 cells fixed with 4% paraformaldehyde (10 min) used under the same conditions.Please note that Abcam do not have any data for use of this antibody in non-fixed cells. We welcome any customer feedback.



Flow Cytometry (Intracellular) - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Flow Cytometry (Intracellular) staining using rabbit Anti-nNOS (neuronal) antibody

Intracellular Flow Cytometry analysis of PC-12 cells labelling nNos (neuronal) with purified ab76067 at 1/600 (red). Cells were fixed with 100% methanol. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Green - Isotype control, rabbit monoclonal IgG.

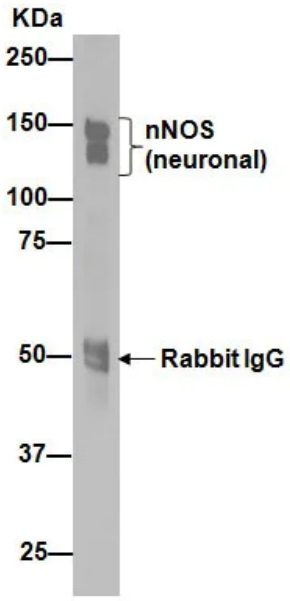


Immunocytochemistry/ Immunofluorescence - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-nNOS (neuronal) antibody

Immunocytochemistry analysis of PC-12 cells labelling nNOS (neuronal) (green) with purified ab76067 at 1/250. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. Cells were counterstained with Anti-alpha Tubulin antibody [DM1A] -

Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red). Nuclear DNA was labelled with DAPI (blue).



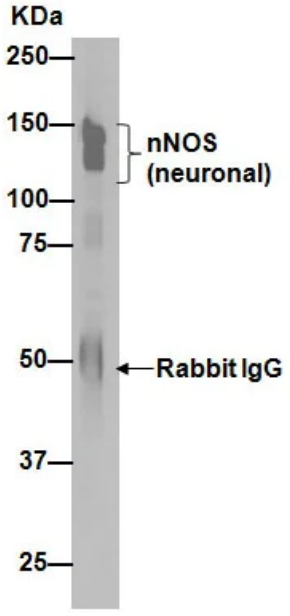
Immunoprecipitation - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

ab76067 (purified) at 1/150 immunoprecipitating nNOS (neuronal) in rat brain tissue lysate. For western blotting, a peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000).
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

Predicted band size: 160 kDa



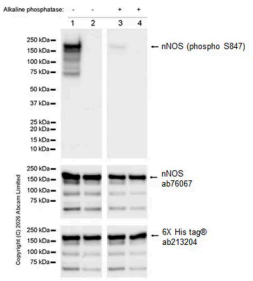
Immunoprecipitation - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

ab76067 (unpurified) at 1/4 immunoprecipitating nNOS (neuronal) in rat brain tissue lysate. For western blotting, a peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000).
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Immunoprecipitation - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

Predicted band size: 160 kDa



Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Western blot staining using rabbit Anti-nNOS (neuronal) antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) (1:5000) (160kDa).

All lanes:
Western blot - Anti-nNOS (phospho S847) antibody [EPR28208-546] (ab325748) at 1/5000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) cells transfected with mouse wild-type nNOS expression vector containing a myc-His-tag® whole cell lysate (untreated membrane) at 2 µg

Lane 2:

293T cells transfected with mouse nNOS (mutation S847A) expression vector containing a myc-His-tag® whole cell lysate (untreated membrane) at 2 µg

Lane 3:
293T cells transfected with mouse wild-type nNOS expression vector containing a myc-His-tag® whole cell lysate (alkaline phosphatase treated membrane) at 2 µg

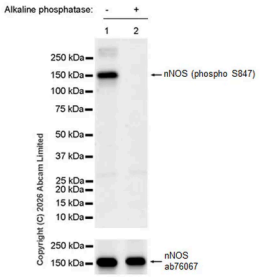
Lane 4:
293T cells transfected with mouse nNOS (mutation S847A) expression vector containing a myc-His-tag® whole cell lysate (alkaline phosphatase treated membrane) at 2 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 160 kDa

Exposure time: 8s



Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Western blot staining of Rat cerebellum tissue lysate (untreated membrane) using rabbit Anti-nNOS (neuronal) antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-nNOS (phospho S847) antibody [EPR28208-546] (ab325748) at 1/1000 dilution

Lane 1:
Rat cerebellum tissue lysate (untreated membrane) at 20 µg

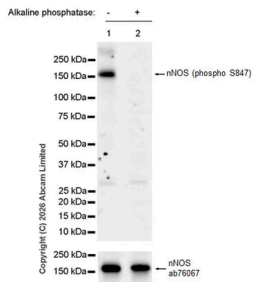
Lane 2:
Rat cerebellum tissue lysate (alkaline phosphatase treated membrane) at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 160 kDa

Exposure time: 81s



Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Western blot staining of Mouse cerebellum tissue lysate (untreated membrane) using rabbit Anti-nNOS (neuronal) antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-nNOS (phospho S847) antibody [EPR28208-546] (ab325748) at 1/1000 dilution

Lane 1:
Mouse cerebellum tissue lysate (untreated membrane) at 20 µg

Lane 2:

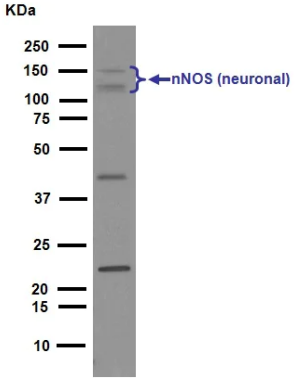
Mouse cerebellum tissue lysate (alkaline phosphatase treated membrane) at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 160 kDa

Exposure time: 103s



Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Western blot staining of Mouse brain tissue lysate using rabbit Anti-nNOS (neuronal) antibody

Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.

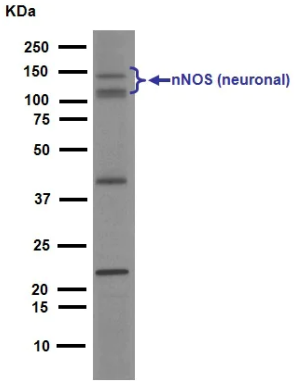
All lanes:
Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067) at 1/3000 dilution

All lanes:
Mouse brain tissue lysate at 10 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 160 kDa



Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

NNOS (neuronal) Western blot staining of Mouse brain tissue lysate using rabbit Anti-nNOS (neuronal) antibody

Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.

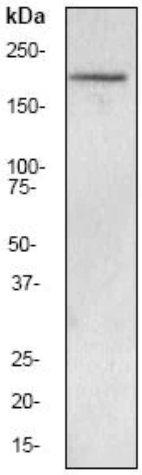
All lanes:
Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067) at 1/100 dilution

All lanes:
Mouse brain tissue lysate at 10 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 160 kDa



Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067)

All lanes:
Western blot - Anti-nNOS (neuronal) antibody [EP1855Y] (ab76067) at 1/1000 dilution

All lanes:
Mouse brain tissue lysate at 10 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG at 1/2000 dilution

Predicted band size: 160 kDa

Observed band size: 161 kDa

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