abcam

ab271857

Anti-nNOS (neuronal) antibody [EP1855Y] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP1855Y
Purification technique	Affinity purification Protein A
Concentration	1.057 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Rat
Dilution info	-

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	-
Notes	-

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	-
Notes	-

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	-
Notes	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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab271857 is the carrier-free version of ab76067.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

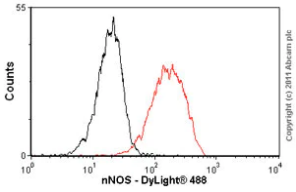
We do not recommend this combination. It is not covered by our product promise.

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.

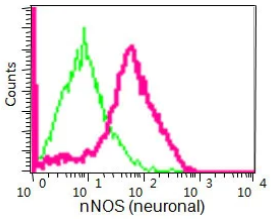
6 product images



Flow Cytometry (Intracellular) - Anti-nNOS (neuronal) antibody [EP1855Y] - BSA and Azide free (ab271857)

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

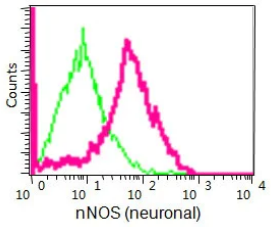
Overlay histogram showing PC-12 cells stained with unpurified ab76067 (red line). The cells were fixed with methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (unpurified ab76067, 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76067).



Flow Cytometry (Intracellular) - Anti-nNOS (neuronal) antibody [EP1855Y] - BSA and Azide free (ab271857)

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

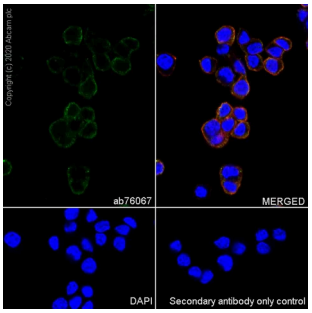
Intracellular Flow Cytometry analysis of PC-12 cells labelling nNos (neuronal) with unpurified ab76067 at 1/15 (red). Cells were fixed with 100% methanol. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Green - Isotype control, rabbit monoclonal IgG.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76067).



Flow Cytometry (Intracellular) - Anti-nNOS (neuronal) antibody [EP1855Y] - BSA and Azide free (ab271857)

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

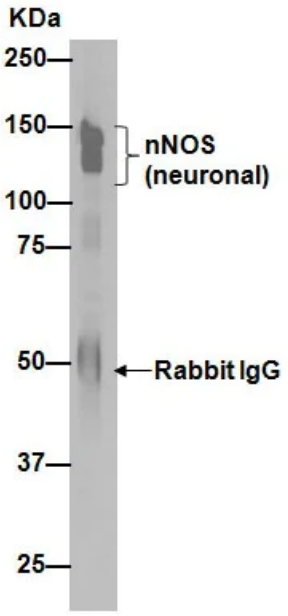
Intracellular Flow Cytometry analysis of PC-12 cells labelling nNos (neuronal) with purified ab76067 at 1/600 (red). Cells were fixed with 100% methanol. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Green - Isotype control, rabbit monoclonal IgG.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76067).



Immunocytochemistry/ Immunofluorescence - Anti-nNOS (neuronal) antibody [EP1855Y] - BSA and Azide free (ab271857)

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).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76067).



Immunoprecipitation - Anti-nNOS (neuronal) antibody [EP1855Y] - BSA and Azide free (ab271857)

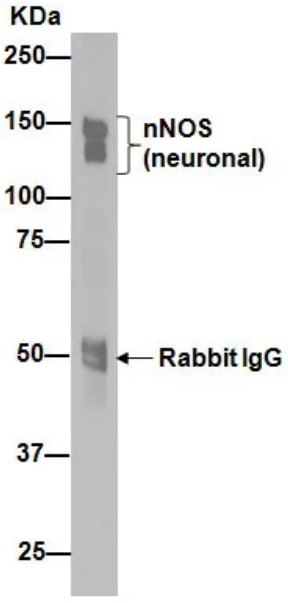
ab76067 (unpurified) at 1/4 immunoprecipitating nNOS (neuronal) in rat brain tissue lysate. For western blotting, a peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000).
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76067).

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

Predicted band size: 160 kDa



Immunoprecipitation - Anti-nNOS (neuronal) antibody [EP1855Y] - BSA and Azide free (ab271857)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab76067).

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

Predicted band size: 160 kDa

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