abcam

ab279297

Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric)

Anti-NeuN antibody [EPR12763] - Rat IgG2a (Chimeric) (ab279297) is a rat monoclonal antibody detecting NeuN in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

This antibody is the chimeric Rat version of clone EPR12763, available in rabbit as ab177487 with over 1,000 publications. Same clone, same staining pattern, different species antibody backbone.
Learn more about chimeric antibodies

Recombinant | 20ul selling size

Key facts

Isotype	IgG2a
Host species	Rat
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	EPR12763
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Expected

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

ICC/IF

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/1000
Notes	-

Expected

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

Target data

See full target information NeuN

Function	Pre-mRNA alternative splicing regulator. Regulates alternative splicing of RBFOX2 to enhance the production of mRNA species that are targeted for nonsense-mediated decay (NMD).

Storage

Shipped at conditions	Blue Ice
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-NeuN antibody [EPR12763] - Rat IgG2a (Chimeric) (ab279297) is a rat recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

Other related products
We have a range of other formats of antibody clone [EPR12763] also available for your convenience: ab177487, Alexa Fluor® 488 - ab190195, Alexa Fluor® 647 - ab190565, Biotin - ab204681, Alexa Fluor® 594 - ab207279, Alexa Fluor® 555 - ab207281, Alexa Fluor® 568 - ab207282, Carrier free - ab209898, FITC - ab223994, ab279295, ab279296, ab279297, Carrier free - ab279307, Carrier free - ab279308, Carrier free - ab279309

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	NeuN also known as Fox-3 or Rbfox3 serves as a vital neuronal marker and has a molecular weight of about 46-50 kDa. This nuclear protein is commonly found in neuronal cells in the central nervous system but it does not appear in glial cells. Researchers use NeuN staining as an effective tool to identify neurons in various brain regions due to its reliable expression pattern in mature neurons. The presence of NeuN can be detected using methods such as NeuN IHC (immunohistochemistry) and NeuN Western blot aiding in cellular and tissue analysis.
Biological function summary	NeuN plays an essential role in the regulation of RNA-binding influencing the splicing and stability of transcripts. It forms part of the complex network responsible for managing neuron-specific gene expression. By interacting with other RNA-binding proteins NeuN contributes to the fine-tuning needed for proper neuronal development and function. As a result NeuN helps maintain the health and activity of nerve cells allowing them to perform complex neurological tasks.
Pathways	NeuN has a significant role in neuronal differentiation and plasticity pathways. NeuN coordinates with elements of the Notch signaling pathway which is important for guiding cell fate decisions in the nervous system. It also interacts with related proteins like Fox proteins involved in splicing regulation. These pathways ensure neurons develop differentiate and function correctly within the nervous system's precise architecture.
Associated diseases and disorders	Disruptions in NeuN expression link closely to neurodegenerative diseases such as Parkinson's disease and Amyotrophic lateral sclerosis (ALS). Abnormal NeuN expression correlates with neuron loss and dysfunction in these conditions with

connectivity to other affected proteins like alpha-synuclein in Parkinson's disease. In ALS abnormal NeuN-staining patterns indicate neuronal cell death serving as a potential marker for disease progression. Studying these connections improves our understanding of disease mechanisms and aids in the development of targeted therapies.

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

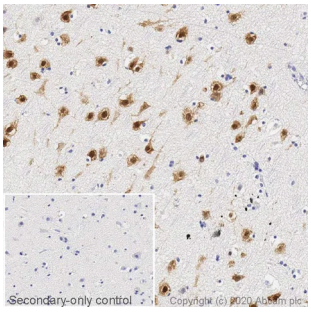
We do not recommend this combination. It is not covered by our product promise.

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

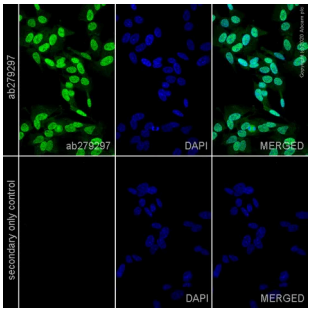


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric) (ab279297)

NeuN Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rat Anti-NeuN antibody

IHC image of NeuN staining in a section of formalin-fixed paraffin-embedded normal human cerebral cortex performed on a Leica BONDTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab279297, 1ug/ml, for 15 mins at room temperature. A rabbit anti-rat IgG2a, ab102248, was added for 8 mins at room temperature and detected using an HRP conjugated goat anti-rabbit compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and

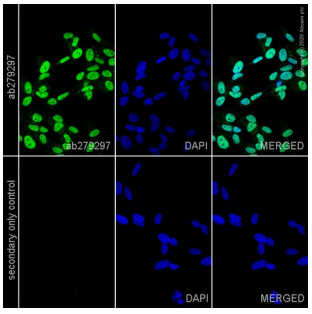
mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry - Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric) (ab279297)

NeuN Immunocytochemistry staining using rat Anti-NeuN antibody

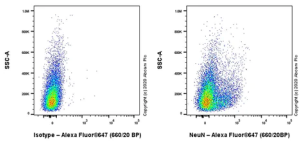
Immunofluorescence staining of NeuN using ab279297 in human SHSY5Y cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% Triton X-100 for 5 mins and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab279297 at 1.0 µg/ml. Cells were then incubated with ab150165, Goat Anti-Rat IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and nuclear DNA was labelled with DAPI (shown in blue). The secondary only control (bottom row) was not incubated with ab279297 but otherwise processed the same. Images were acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Immunocytochemistry - Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric) (ab279297)

NeuN Immunocytochemistry staining using rat Anti-NeuN antibody

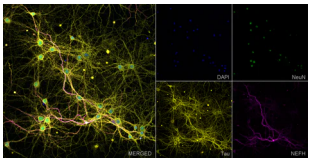
Immunofluorescence staining of NeuN using ab279297 in human SHSY5Y cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 mins and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab279297 at 1.0 µg/ml. Cells were then incubated with ab150165, Goat Anti-Rat IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and nuclear DNA was labelled with DAPI (shown in blue). The secondary only control (bottom row) was not incubated with ab279297 but otherwise processed the same. Images were acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Flow Cytometry (Intracellular) - Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric) (ab279297)

NeuN Flow Cytometry (Intracellular) staining using rat Anti-NeuN antibody

Flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized rat primary neural/glia cells labelling NeuN with ab279297 at 1/1000 dilution (0.1µg)/ Right compared with a Mouse monoclonal IgG isotype control/ Left.
Goat F(ab)2 Anti-Rat IgG Fc (Alexa Fluor® 647, ab150163) at 1/2000 dilution was used as the secondary antibody.

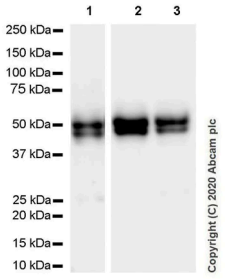


Immunocytochemistry/ Immunofluorescence - Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric) (ab279297)

NeuN Immunocytochemistry/ Immunofluorescence staining of Mouse Primary Neurons DIV14 cells using rat Anti-NeuN antibody

Composite multiplex immunofluorescence staining of ab279297, ab317042 and ab308439 staining NeuN, NEFH and Tau (MBD region) in Mouse Primary Neurons DIV14 cells. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab279297 (shown in green), ab317042 (shown in magenta) and ab308439 (shown in yellow) at 1µg/ml. Cells were then incubated with ab150161 Goat F(ab')2 Anti-Rat IgG Fc (Alexa Fluor® 488) preadsorbed, ab150175 Goat Anti-Chicken IgY H&L (Alexa Fluor® 647) preadsorbed and ab150084 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) preadsorbed at 1/1000 dilution. Nuclear DNA was labelled with DAPI (shown in blue).

Image was acquired with a confocal microscope (Leica-Microsystems TCS SP8) and a single confocal section is shown.



Western blot - Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric) (ab279297)

NeuN Western blot staining using rat Anti-NeuN antibody

Exposure time: Lane 1: 48 seconds; Lane 2, 3: 4.5 seconds.
Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-NeuN antibody [EPR12763] - Neuronal Marker - Rat IgG2a (Chimeric) (ab279297) at 1/1000 dilution

Lane 1:
Human brain tissue lysate at 20 µg

Lane 2:
Mouse brain tissue lysate at 20 µg

Lane 3:
Rat brain tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rat IgG H&L (HRP) (ab205720) at 1/5000 dilution

Predicted band size: 34 kDa

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