abcam

ab190195

Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker

Anti-NeuN antibody [EPR12763] - Neuronal Marker - Alexa Fluor® 488 conjugated (ab190195) is a rabbit recombinant monoclonal antibody detecting NeuN in **Flow Cytometry (Intra), IHC-P, IHC-Fr, ICC/IF**. Suitable for **Human, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 30 publications

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% 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	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Rat
Dilution info	1/50 - 1/250
Notes	-

Species	Human
Dilution info	1/50 - 1/250
Notes	-

Expected

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

Predicted

Species	Sheep, Goat, Cat, Dog, Zebrafish, Common marmoset
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Rat
Dilution info	1/50
Notes	Before commencing with immunostaining protocol, perform heat mediated antigen retrieval using sodium citrate buffer, pH6.

Expected

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

Predicted

Species	Sheep, Goat, Cat, Dog, Zebrafish, Common marmoset, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	ab199091 - Rabbit monoclonal IgG (Alexa FluorÂ® 488), is suitable for use as an isotype control with this antibody.

Expected

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

Predicted

Species	Sheep, Goat, Cat, Dog, Zebrafish, Common marmoset
Dilution info	-
Notes	-

IHC-P

Tested

Species	Rat
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

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

Predicted

Species	Sheep, Goat, Cat, Dog, Zebrafish, Common marmoset
Dilution info	-
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, Store in the dark

Notes

Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-Fr, IHC-P in human, rat samples.

Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195) has been cited over 37 times in peer reviewed journals and is trusted by the scientific community.

Flourescent conjugated antibodies are ideal tools for multiplex IHC and flow cytometry experiments.

Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195) has 6 independent reviews from customers.

Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195) specifically detects NeuN (UniProt ID: A6NFN3; Molecular weight: 34kDa) and is sold in a 100 uL selling size.

Conjugation-ready, carrier free format available for antibody clone (EPR12763) - ab209898.

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.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

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

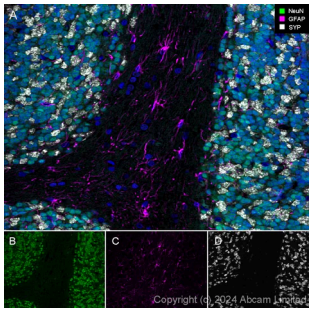
We do not recommend this combination. It is not covered by our product promise.

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) - Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195)

NeuN Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat cerebellum using rabbit Anti-NeuN antibody

Image A: composite multiplex immunohistochemistry staining using conjugates panel composed of anti-NeuN (Alexa Fluor® 488) (ab190195, 1/100 dilution, 5 µg/mL) (green), anti-GFAP (Alexa Fluor® 555) (ab201735, 1/100 dilution, 5 µg/mL) (magenta) and anti-Synaptophysin (Alexa Fluor® 647) (ab196166, 1/100 dilution, 5 µg/mL) (white) on Formalin/PFA-fixed paraffin-embedded sections of rat cerebellum. Nuclear DNA was labelled with DAPI (blue).

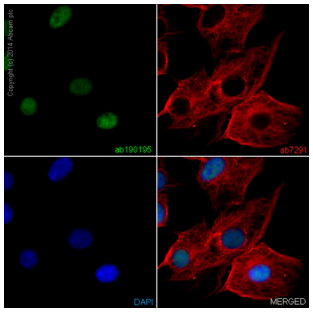
Image B: Formalin/PFA-fixed paraffin-embedded section of rat cerebellum stained with anti-NeuN (Alexa Fluor® 488) (ab190195, 1/100 dilution, 5 µg/mL).

Image C: Formalin/PFA-fixed paraffin-embedded section of rat cerebellum stained with anti-GFAP (Alexa Fluor® 555) (ab201735, 1/100 dilution, 5 µg/mL).

Image D: Formalin/PFA-fixed paraffin-embedded section of rat cerebellum stained with anti-Synaptophysin (Alexa Fluor® 647) (ab196166, 1/100 dilution, 5 µg/mL).

Immunohistochemistry staining was performed on a Leica Biosystems BOND® RX instrument. Heat mediated antigen retrieval with EDTA (pH 9.0, 110°C) for 40 mins. The section was then incubated at room temperature for 1 hour and mounted using Dako Fluorescence Mounting Medium®.

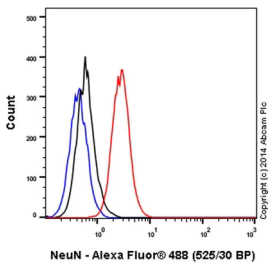
Image acquisition was performed with Leica SP8 confocal microscope. For other IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195)

NeuN Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NeuN antibody

ab190195 staining NeuN in U87-MG cells. The cells were fixed with 100% methanol (5min) and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab190195 at 1/50 dilution (shown in green) and ab7291 (Mouse monoclonal [DM1A] to alpha Tubulin) at 1µg/ml overnight at +4°C, followed by a further incubation at room temperature for 1h with an Alexa Fluor® 594 Goat anti-Mouse secondary (ab150120) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI.

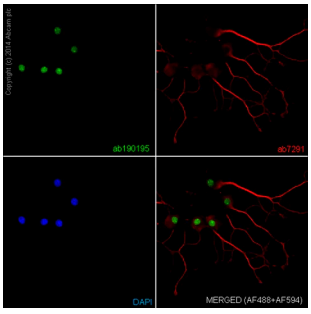


Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195)

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

Overlay histogram showing U-87MG cells stained with ab190195 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab190195, 1/500 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 488 used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

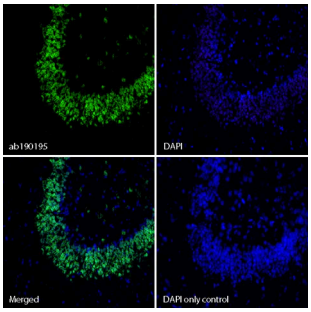
This antibody gave a positive signal in U-87MG fixed with 4% formaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195)

NeuN Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NeuN antibody

ab190195 staining NeuN in NGF-differentiated PC12 cells (7 days). The cells were fixed with 100% methanol (5min) and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab190195 at 1/50 dilution (shown in green) and ab7291 (Mouse monoclonal [DM1A] to alpha Tubulin) at 1µg/ml overnight at +4°C, followed by a further incubation at room temperature for 1h with an Alexa Fluor® 594 Goat anti-Mouse secondary (ab150120) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI.



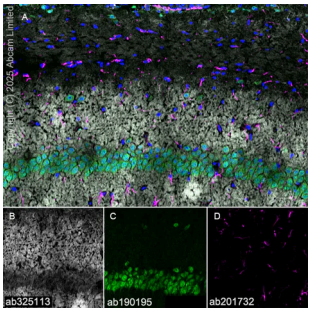
Immunohistochemistry (Frozen sections) - Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195)

NeuN Immunohistochemistry (Frozen sections) staining using rabbit Anti-NeuN antibody

IHC image of ab190195 staining in acetone fixed frozen tissue section of normal rat brain. Non-specific protein-protein interactions were blocked using TBS containing 0.025% (v/v) Triton X-100, 0.3M (w/v) glycine and 3% (w/v) BSA for 1h at room temperature. The section was then incubated with ab190195 (1/50) in TBS containing 0.025% (v/v) Triton X-100 and 3% (w/v) BSA overnight at +4°C. The section was then counterstained and mounted with SlowFade® Gold Antifade Mountant with DAPI.

The DAPI only control (no antibody) inset shows no autofluorescence, demonstrating that any Alexa Fluor® 488 signal is dervied directly from bound ab190195. The separate images of ab190195 and DAPI alone, combined with the merged version of both signals, shows predominant co-localisation of the Alexa Fluor® 488 signal in the nuclei of the hippocampal granular layer.

For other IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.



Immunohistochemistry (Frozen sections) - Alexa Fluor® 488 Anti-NeuN antibody [EPR12763] - Neuronal Marker (ab190195)

NeuN Immunohistochemistry (Frozen sections) staining of Mouse hippocampus (fresh frozen) using rabbit Anti-NeuN antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse hippocampus (fresh frozen) tissue labeling SAP102 with ab325113 at 1/50 (10.0 ug/ml) dilution (White).

Panel A: merged staining of anti-DLG3 (ab325113, white), anti-NeuN (ab190195, green) and anti-GFAP (ab201732, magenta) on mouse hippocampus.
Panel B: anti-DLG3 stained on mouse hippocampus.
Panel C: anti-NeuN stained in neurons of mouse hippocampus.
Panel D: anti-GFAP stained in astrocytes of mouse hippocampus.
The section was incubated in two rounds of staining: in the order of ab325113 and ab190195, ab201732 for 1 hr at room temperature. The nuclear counterstain was DAPI (Blue). The section was then mounted using Fluoromount®. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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