

PRODUCT INFORMATION



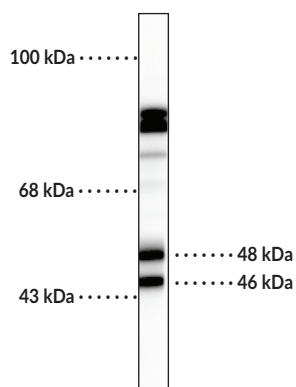
NeuN Monoclonal Antibody (Clone 1B7)

Item No. 29265

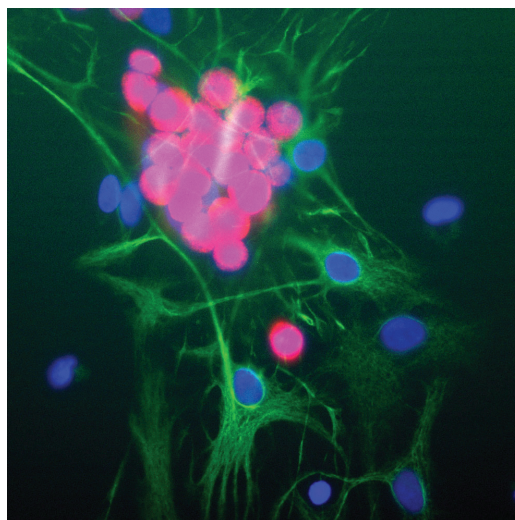
Overview and Properties

Contents: This vial contains 100 µl of protein G-purified mouse monoclonal antibody.
Synonyms: FOX3, Rbfox3, RNA Binding Protein Fox-1 Homolog 3
Immunogen: Recombinant protein from the N-terminus of human NeuN
Molecular Weight: 46 and 48 kDa for nuclear and cytosolic NeuN, respectively
Species Reactivity: (+) Human, bovine, mouse, rat
Form: Liquid
Storage: -20°C (as supplied)
Stability: ≥1 year
Storage Buffer: PBS with 50% glycerol and 5 mM sodium azide
Clone: 1B7
Host: Mouse
Isotype: IgG2a
Applications: Immunocytochemistry (ICC), immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for ICC is 1:200-1:1,000, 1:500-1:1,000 for IHC, and 1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of rat cortical lysate showing specific immunolabeling of the NeuN protein. The bands at 46 and 48 kDa correspond to nuclear and cytosolic NeuN, respectively.



Immunofluorescence of cultured rat neurons showing strong nuclear and distal cytoplasmic staining of NeuN in red and the complete absence of astrocyte staining, which are stained green using GFAP antibody.

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

NeuN, also known as FOX3 and RNA binding protein fox-1 homolog 3 (Rbfox3), is a pre-mRNA alternative splicing regulator encoded by *RBFOX3* in humans.^{1,2} It is expressed in mature neurons of the brain and spinal cord and is commonly used as a neuronal marker to quantify the number of new neurons generated during adult neurogenesis or the extent of therapeutic neuroprotection in animal models of neurodegenerative disease.^{3,4} There are two subtypes of NeuN, a 46 kDa nuclear form and 48 kDa cytoplasmic form. Cytosolic NeuN is increased in the lumbar spinal cord in a mouse model of amyotrophic lateral sclerosis (ALS) compared with control animals.² Exon deletions and truncations of NeuN are found in patients with Rolandic epilepsy and *RBFOX3* is located within the apparently balanced chromosomal rearrangement (ABCR) regions of chromosomes in patients with developmental delays and speech disorders.⁴ Cayman's NeuN Monoclonal Antibody (Clone 1B7) can be used for immunocytochemistry (ICC), immunohistochemistry (IHC), and Western blot (WB) applications. The antibody recognizes nuclear and cytosolic NeuN at approximately 46 and 48 kDa, respectively.

References

1. Kim, K.K., Adelstein, R.S., and Kawamoto, S. Identification of neuronal nuclei (NeuN) as Fox-3, a new member of the Fox-1 gene family of splicing factors. *J. Biol. Chem.* **284(45)**, 31052-31061 (2009).
2. Ma, X., Turnbull, P.C., Crapper, E.P., *et al.* Cytosolic localization of Fox proteins in motor neurons of G93A SOD1 mice. *Histochem. Cell Biol.* **145(5)**, 545-559 (2016).
3. Kempermann, G. and Gage, F.H. Genetic influence on phenotypic differentiation in adult hippocampal neurogenesis. *Brain Res. Dev. Brain Res.* **134(1-2)**, 1-12 (2002).
4. Duan, W., Zhang, Y.-P., Hou, Z., *et al.* Novel insights into NeuN: From neuronal marker to splicing regulator. *Mol. Neurobiol.* **53(3)**, 1637-1647 (2016).

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