PRODUCT INFORMATION

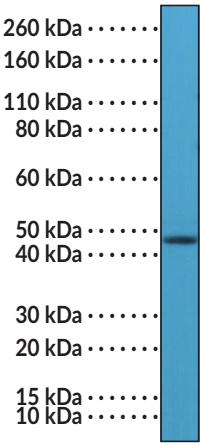
NeuN (N-Term) Rabbit Monoclonal Antibody (Clone RM306)

Item No. 32254

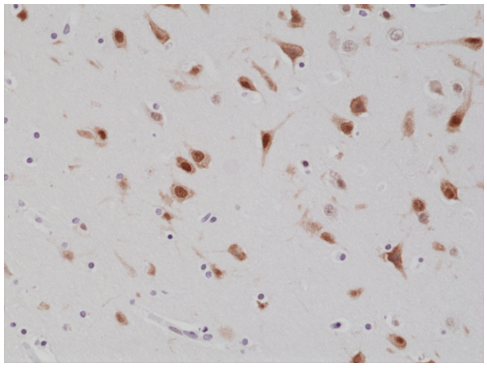
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	FOX3, Rbfox3, RNA Binding Protein Fox-1 Homolog 3
Immunogen:	Peptide from the N-terminal region of human NeuN
Cross Reactivity:	(+) NeuN
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM306
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:500-1:1,000 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of human brain tissue lysate using NeuN (N-Term) Rabbit Monoclonal Antibody (Clone RM306) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain tissue using NeuN (N-Term) Rabbit Monoclonal Antibody (Clone RM306) at a 1:1,000 dilution.

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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 (N-Term) Rabbit Monoclonal Antibody (Clone RM306) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

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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