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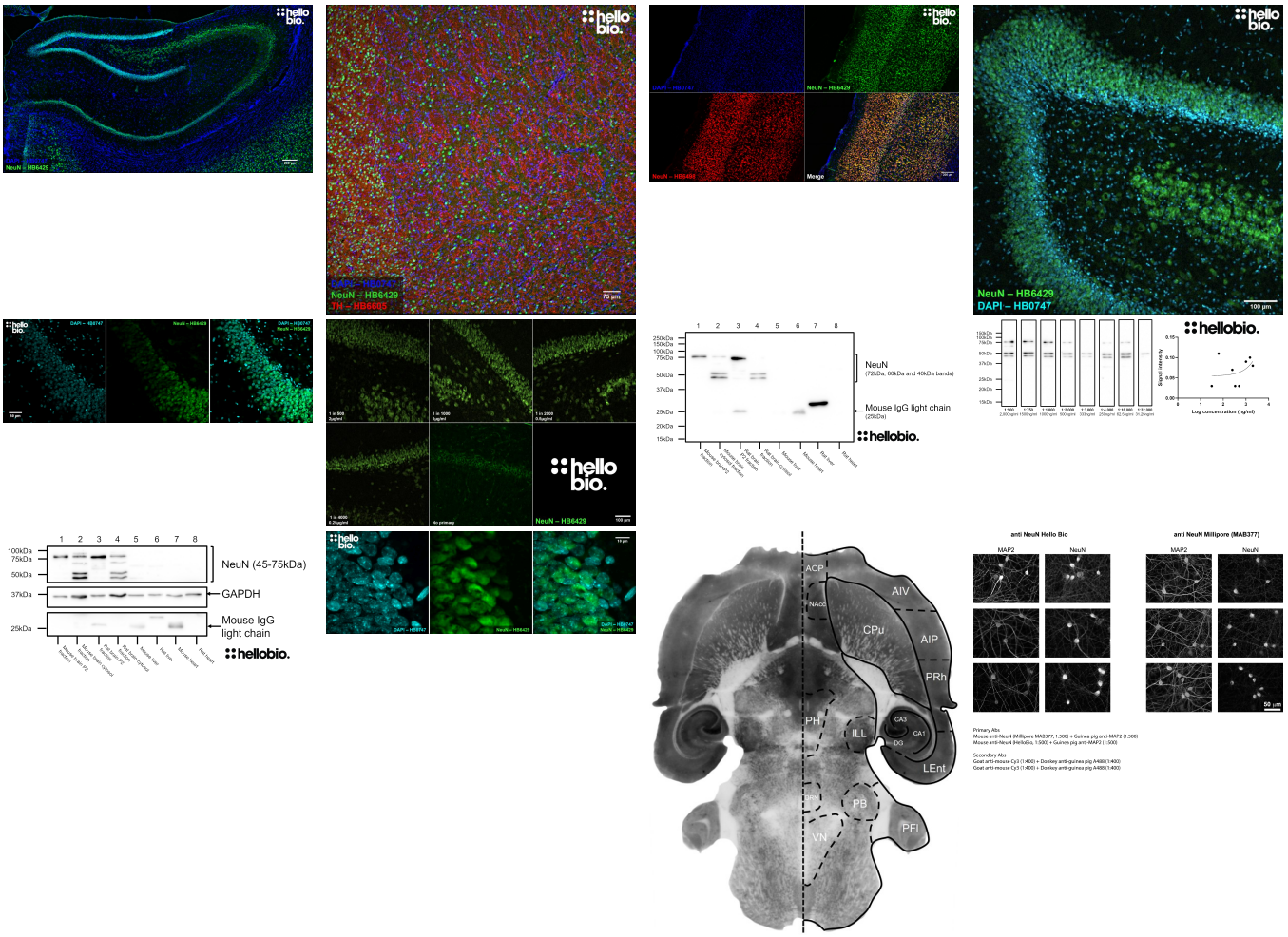
DATASHEET

Anti-NeuN antibody ValidAb™

Product overview

Name	Anti-NeuN antibody ValidAb™
Cat No	HB6429
Alternative names	Fox-3
Host	Mouse
Clonality	Monoclonal
Target	NeuN
Customer comments	*The NeuN antibody shows good specificity and signal/noise (S/N). At equivalent dilution, the signal is brighter with this antibody than with our usual antibodies - the Poncer lab, Institute Du Fer À Moulin - Inserm.*
Description	Antibody to NeuN - marker for mature neurones expressed in the nucleus. Part of the ValidAb™ range of highly validated, data-rich antibodies.

Validation data



Product information

Immunogen	Amino acids 213 - 310 of human FOX3 expressed and purified from E. coli
Clone number	1B7
Isotype	IgG2b
Purification	Protein G affinity chromatography
Concentration	1mg/ml
Formulation	50% PBS, 50% glycerol + 5mM sodium azide
Predicted species reactivity	Human, Mouse, Rat
Tested species reactivity	Mouse, Rat

Tested applications

Applications	WB, IHC(IF), Histoblot
Western blot optimal concentration	1:1000 (1µg/ml) as assessed in a rat brain cytosol preparation
IHC(IF) optimal concentration	1:1000 (1µg/ml) as assessed in rat hippocampal sections
ICC optimal concentration	1:1000 (1µg/ml) as assessed in rat horizontal brain sections
Positive control	NeuN is highly expressed in the neurons of the CNS and PNS. It is also expressed in SH-SY5Y cells.
Negative control	Any tissue not of neural origin. Most cell lines are NeuN negative.
Open data link	Please follow this link to OSF

Target information

Other names	FOX3, RNA binding protein fox-1 homolog 3, Fox-1 homolog C, RBFOX3, RFOX3
UniProt ID	A6NFN3
Gene name	RBFOX3
NCBI full gene name	RNA binding fox-1 homolog 3
Entrez gene ID	146713
Amino acids	Dependent on isoform
Isoforms	NeuN binds primarily to FOX3 which has two isoforms. Isoform 1 is described as the canonical sequence with 312 amino acids (33.8kDa) while isoform 2 has a 13 residue insert at position 312 leading to a total length of 325 amino acids (35.1kDa). NeuN antibodies also bind to synapsin-1 in western blot experiments (but not in IHC or ICC) which has two isoforms. Isoform 1 is 705aa long (74.1kDa) while isoform 2 is shorter at 669aa (70.0kDa).
Expression	NeuN is expressed only within neurones. While the vast majority of neurones express NeuN some cell types such as Purkinje cells, stellate and golgi cells do not show immunoreactivity.
Subcellular expression	Expression is primarily localised to the nucleus however some FOX3 isoforms can localise to the cytosol.
Target function	FOX3 is a splicing regulator of pre-mRNA responsible for neuronal specific alternative splicing of neuronal proteins.
Processing	None
Post translational modifications	Phosphorylation has been reported (see Lind et al., 2004. J Neurosci Res. 79: 295-302) which is directly related to immunoreactivity whereby dephosphorylation abolished staining.
Homology (compared to human)	Mouse FOX3 shows 95.02% identity to human FOX3 wheras rat FOX3 shows no similarity due to a large 47 residue insertion at amino acid 252 in rats.
Similar proteins	RNA-binding protein fox-1 homolog 1 (40-44kDa) shows 67.3% identity while RNA-binding protein fox-1 homolog 2 (37-47kDa) shows 56.5% identity

Storage & Handling

Storage instructions	-20°C
Shipping Conditions	On ice
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

References

Novel Insights into NeuN: from Neuronal Marker to Splicing Regulator

Duan W et al (2016) Molecular neurobiology 53(3)

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Characterization of the neuronal marker NeuN as a multiply phosphorylated antigen with discrete subcellular localization

Lind D et al (2005) Journal of Neuroscience Research 79(3)

PubMedID 15605376

Identification of neuronal nuclei (NeuN) as Fox-3, a new member of the Fox-1 gene family of splicing factors

Kim KK et al (2009) Biological Chemistry 284(45)
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NeuN As a Neuronal Nuclear Antigen and Neuron Differentiation Marker

Gusel'nikova VV et al (2015) Acta Naturae 7(2)
PubMedID 26085943

NeuN: a useful neuronal marker for diagnostic histopathology

Wolf et al (1996) Journal of histochemistry and cytochemistry 44(10)
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