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# **DATASHEET**

Anti-NeuN antibody ValidAbTM

#### **Product overview**

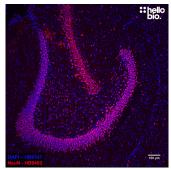
Name Anti-NeuN antibody ValidAb<sup>TM</sup>

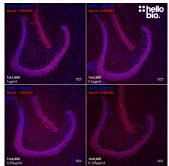
Cat NoHB9493Alternative namesFox-3HostGoatClonalityPolyclonalTargetNeuN

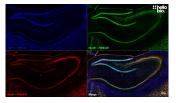
**Description** Antibody to NeuN - marker for mature neurones expressed in the nucleus. Part of the ValidAb™ range

of highly validated, data-rich antibodies.

## Validation data







## **Product information**

Immunogen N-terminal 100 amino acids of human FOX3 expressed and purified from E. coli

Isotype lg

Purification Immunogen affinity purification

Concentration 1mg/ml

**Formulation** 50% PBS, 50% glycerol + 5mM sodium azide

Predicted species reactivity Mouse, Rat, Human

Tested species reactivity Mouse, Rat

# **Tested applications**

**Applications** IHC(IF)

IHC(IF) optimal concentration 1:1000 (1µg/ml) as assessed in rat 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 Phosphorylation has been reported (see Lind et al., 2004. J Neurosci Res. 79: 295-302) which is

modifications directly related to immunoreactivity whereby dephosphorylation abolished staining.

**Homology (compared to**Mouse FOX3 shows 95.02% identity to human FOX3 wheras rat FOX3 shows no similarity due to a

**human)** large 47 residue insertion at amino acid 252 in rats.

-20°C

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
Shipping Conditions

onditions 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

#### NeuN: a useful neuronal marker for diagnostic histopathology.

Wolf HK et al (1996) The journal of histochemistry and cytochemistry: official journal of the Histochemistry Society 44

PubMedID 8813082

#### **NeuN As a Neuronal Nuclear Antigen and Neuron Differentiation Marker.**

Gusel'nikova VV et al (2015) Acta naturae 7 **PubMedID** 26085943

#### 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) The Journal of biological chemistry 284

PubMedID 19713214

#### 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

**PubMedID** 15605376

## Novel Insights into NeuN: from Neuronal Marker to Splicing Regulator.

Duan W et al (2016) Molecular neurobiology 53 **PubMedID** 25680637