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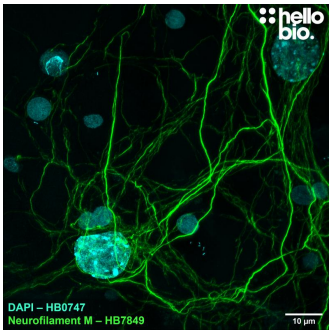
DATASHEET

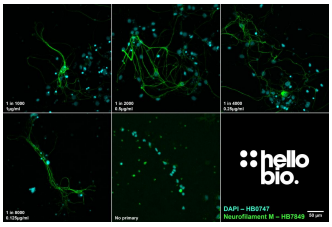
Anti-Neurofilament M (NF-M) antibody ValidAb™

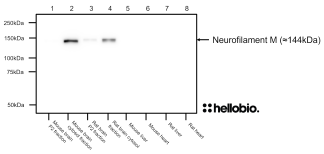
Product overview

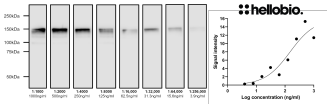
Name	Anti-Neurofilament M (NF-M) antibody ValidAb™
Cat No	HB7849
Host	Mouse
Clonality	Monoclonal
Target	Neurofilament M
Description	Antibody to Neurofilament M - neurofilament component expressed in neurones. Part of the ValidAb™ range of highly validated, data-rich antibodies.

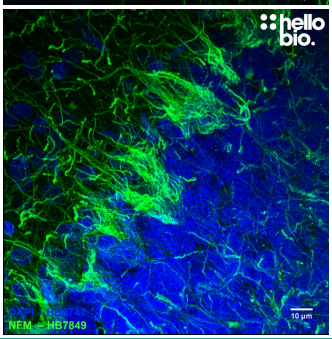
Validation data

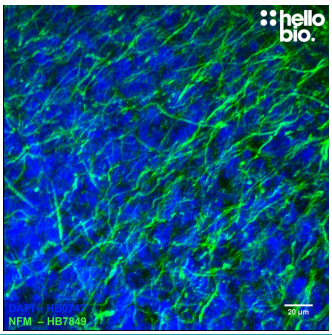


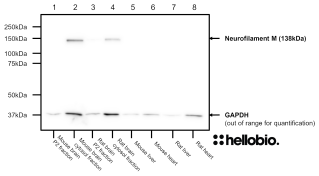












Product information

Immunogen	Amino acids 677 - 845 of rat neurofilament M expressed in a fusion protein in E.coli
Clone number	3H11
Isotype	IgG1
Purification	Protein G affinity chromatography
Concentration	1mg/ml
Formulation	50% PBS, 50% glycerol + 5mM sodium azide
Predicted species reactivity	Chicken, Cow, Human, Mouse, Pig, Rat
Tested species reactivity	Mouse, Rat

Tested applications

Applications	ICC, WB, IHC(IF)

Western blot optimal concentration	125ng/ml (1:8000) as assessed in rat brain cytosol preparation
IHC(IF) optimal concentration	1µg/ml (1:1000 dilution) as assessed in 4% PFA fixed rat brain sections
ICC optimal concentration	500ng/ml (1:2000) as assessed in cultured rat neurones
Positive control	Neurofilament M is highly expressed in neural tissue and also found in HEK293 cells.
Negative control	Any tissue not of neural origin and nearly all cell lines.
Open data link	Please follow this link to OSF

Target information

Other names	NF-M, NFM, NEFM, 160 kDa neurofilament protein, Neurofilament 3, Neurofilament triplet M protein
UniProt ID	P07197
Gene name	NEFM
NCBI full gene name	neurofilament medium chain
Entrez gene ID	4741
Amino acids	916 (102.4kDa)
Isoforms	Neurofilament M has two isoforms: Isoform 1 (canonical): 916 amino acids, 102.4kDa; Isoform 2 (missing residues 1-376): 540aa, 59.5kDa.
Expression	Expressed within neurones only throughout the body
Subcellular expression	Expressed within the cytoskeleton and axons only.
Processing	The leading methionine is removed to leave the mature polypeptide chain.
Post translational modifications	Phosphorylated on numerous residues leading to the large discrepancy between predicted molecular weight and the apparent weight in SDS-PAGE experiments.
Homology (compared to human)	Mice and rat neurofilament M show 89.2% and 89.1% identity to the human protein respectively.
Similar proteins	Similar proteins to neurofilament M include: Alpha internexin (47.7% identity), Neurofilament H (43.6% identity), Neurofilament L (53.0% identity) Vimentin (45.7% identity), GFAP (46.7% identity) and Peripherin (45.2% identity)

Storage & Handling

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

References

Neurofilaments and Neurofilament Proteins in Health and Disease

Yuan A et al (2017) Cold Spring Harbor Perspectives in Biology 9(4)
PubMedID 28373358

Neurofilaments at a glance

Yuan A et al (2012) Journal of Cell Science 125(14)
PubMedID 22956720

Neurofilament subunits are integral components of synapses and modulate neurotransmission and behavior in vivo

Yuan A et al (2015) Molecular Psychiatry 20(8)
PubMedID 25869803

Neurofilament-M interacts with the D1 dopamine receptor to regulate cell surface expression and desensitization

Kim O et al (2002) Journal of Neuroscience 22(14)
PubMedID 12122054