Hello Bio, Inc.
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500
F. 609-228-4994

customercare-usa@hellobio.com

# DATASHEET

Recombinant Anti-Neurofilament L (NF-L) antibody ValidAb™

## Product overview

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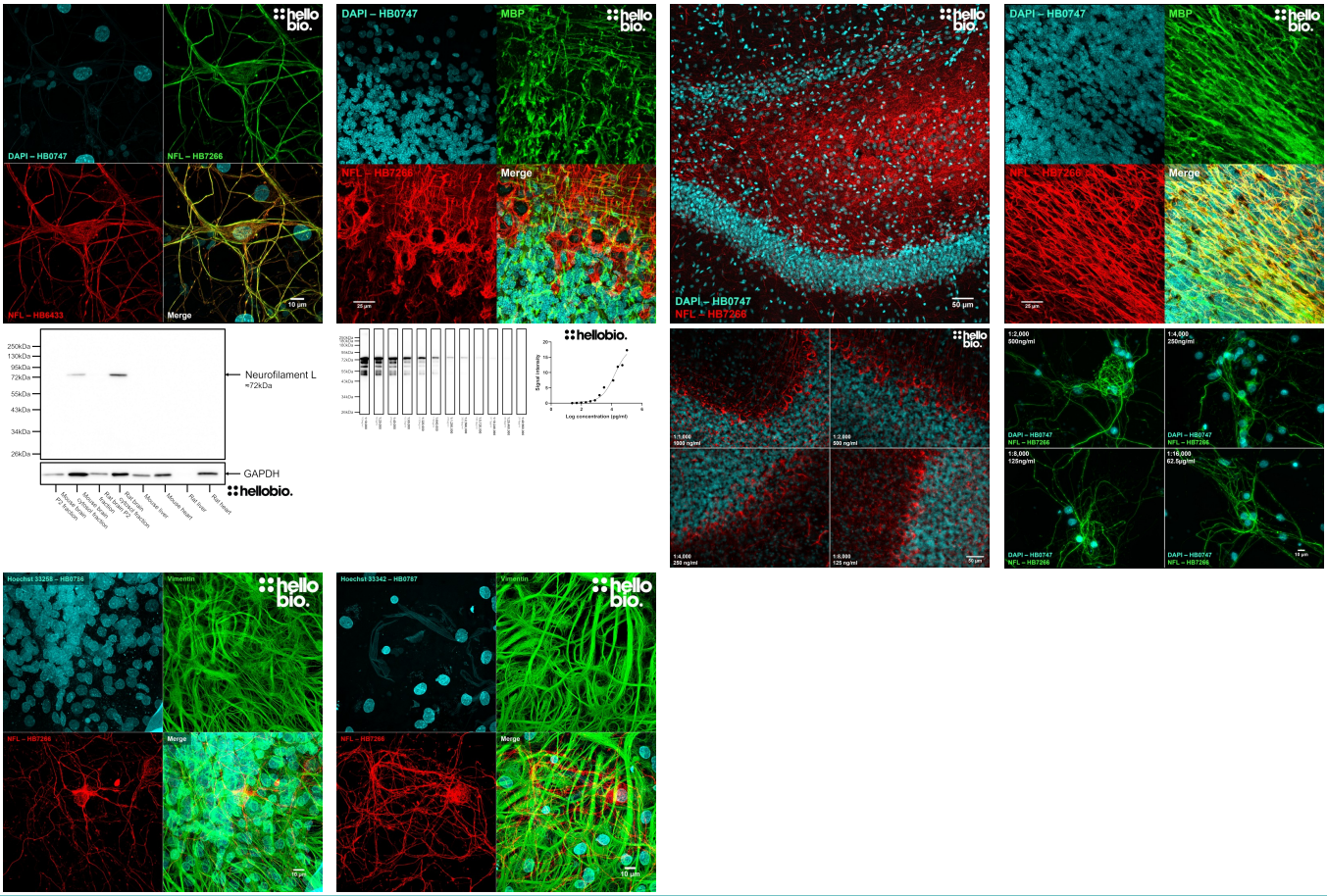
| **Name** | Recombinant Anti-Neurofilament L (NF-L) antibody ValidAb™ |
| **Cat No** | HB7266 |
| **Host** | Rabbit |
| **Clonality** | Monoclonal |
| **Target** | Neurofilament L |
| **Description** | Recombinant antibody to Neurofilament L - neurofilament component expressed in neurones. Part of the ValidAb™ range of highly validated, data-rich antibodies. |

## Validation data




## Product information

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| **Immunogen** | Recombinant human NFL |
| **Clone number** | NF36 |
| **Isotype** | IgG |
| **Purification** | Protein A affinity chromatography |
| **Concentration** | 1mg/ml |
| **Formulation** | Lyophilised. When reconstituted contains PBS with 0.09% sodium azide and 1% recombinant albumin |

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| **Predicted species reactivity** | Mouse, Rat, Human |
| **Tested species reactivity** | Mouse, Rat |

## Tested applications

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| **Applications** | ICC, WB, IHC(IF) |
| **Western blot optimal concentration** | 1ng/ml (1:1,000,000) as tested in rat brain cytosol fraction |
| **IHC(IF) optimal concentration** | 0.5µg/ml (1:2,000) as tested in 4% PFA fixed free-floating 40µm rat cerebellum sections. |
| **ICC optimal concentration** | 0.25µg/ml (1:4,000) as tested in mixed hippocampal/cortical cultured rat neurones |
| **Positive control** | Neurofilament L 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

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| **Other names** | NF-L, NFL, 68 kDa neurofilament protein, Neurofilament triplet L protein, Neurofilament light polypeptide |
| **UniProt ID** | P07196 |
| **Gene name** | NEFL |
| **NCBI full gene name** | neurofilament light chain |
| **Entrez gene ID** | 4747 |
| **Amino acids** | 543 (61.5kDa) |
| **Isoforms** | NFL has no isoforms other than the canonical sequence |
| **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** | Has 7 phosphorylation sites, 2 glycosylation sites and 3 other modified residues. The high number of phosphorylation sites makes NFL appear to run at a higher molecular weight in SDS-PAGE than it's structure would predict. |
| **Homology (compared to human)** | Has 7 phosphorylation sites, 2 glycosylation sites and 3 other modified residues. The high number of phosphorylation sites makes NFL appear to run at a higher molecular weight in SDS-PAGE than it's structure would predict. |
| **Similar proteins** | The most similar proteins, assessed using BLAST, are alpha-internexin (52.2% identity), vimentin (49.9% identity), neurofilament M (44.4% identity) and neurofilament H (44.9% identity). |

## Storage & Handling

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| **Storage instructions** | -20°C then use reconstitution advice |
| **Reconstitution advice** | Upon receipt store at either -20°C or -80°C.<br><br>For 100µg packs either:<br><br>• Reconstitute with 100µl $dH_2O$ and store at 4°C<br>• Reconstitute with 50µl $dH_2O$ and 50µl glycerol then store at -20°C<br>• Reconstitute with 100µl $dH_2O$, aliquot then snap freeze and store at -80°C<br><br>For 25µg packs either:<br><br>• Reconstitute with 25µl $dH_2O$ and store at 4°C<br>• Reconstitute with 12.5µl $dH_2O$ and 12.5µl glycerol then store at -20°C<br>• Reconstitute with 25µl $dH_2O$, aliquot then snap freeze and store at -80°C<br><br>For more information read our guide on the best care for your product. Take care when opening as the precipitate is extremely light and can easily be lost if disturbed. When reconstituting make sure that the antibody is thoroughly dissolved by pipetting up and down before giving the antibody a brief spin at 10,000g to make sure that all material is recovered and at the bottom of the tube. |
| **Important** | This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use |

# References


### Serum neurofilament light levels in normal aging and their association with morphologic brain changes

Khalil et al (2020) Nature Communications 11(1)
**PubMedID** 32041951

### Neurofilament light chain as a biomarker in neurological disorders.

Gaetani L et al (2019) Journal of neurology, neurosurgery, and psychiatry 90
**PubMedID** 30967444

### Neurofilaments and Neurofilament Proteins in Health and Disease.

Yuan A et al (2017) Cold Spring Harbor perspectives in biology 9
**PubMedID** 28373358

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

Yuan A et al (2015) Molecular psychiatry 20
**PubMedID** 25869803

### Neurofilaments at a glance.

Yuan A et al (2012) Journal of cell science 125
**PubMedID** 22956720