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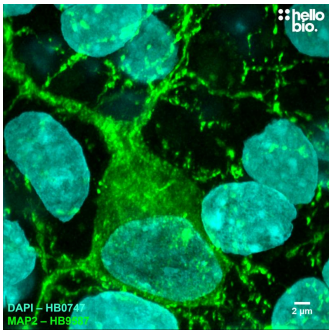
DATASHEET

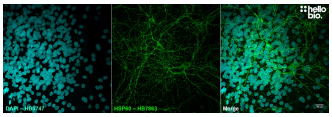
Anti-MAP2 antibody ValidAb™

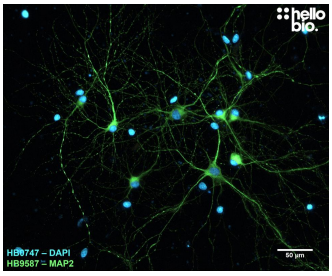
Product overview

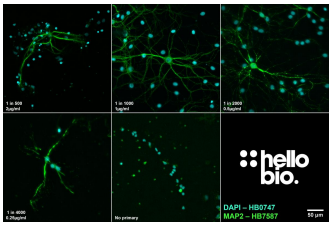
Name	Anti-MAP2 antibody ValidAb™
Cat No	HB9587
Host	Mouse
Clonality	Monoclonal
Target	MAP2
Description	Antibody to MAP2 - cytoskeletal protein used as a neuronal marker. Part of the ValidAb™ range of highly validated, data-rich antibodies.

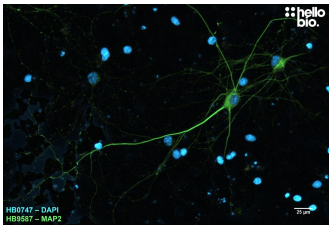
Validation data

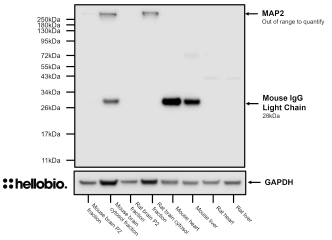


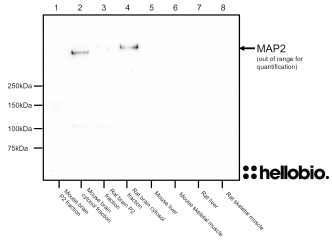


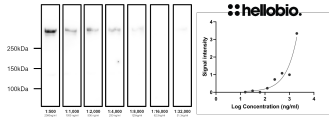


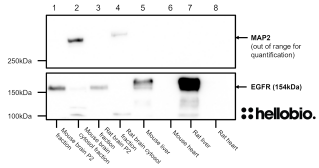












Product information

Immunogen	Microtubule preparation derived from bovine brain and enriched for kinesin
Epitope	Localised to within amino acids 1375 to 1395 (CPPAVSEADLATDERADVQME)
Clone number	MT-07
Isotype	IgG1
Purification	Protein A affinity chromatography
Concentration	1mg/ml
Formulation	Lyophilised. When reconstituted contains PBS with 15mM sodium azide and 1% recombinant BSA
Predicted species reactivity	Human, Mouse, Pig, Cow
Tested species reactivity	Mouse, Rat

Tested applications

Applications	ICC, WB, IHC(IF)
Western blot optimal concentration	1µg/ml (1:1000) as measured in rat brain cytosol
IHC(IF) optimal concentration	1µg/ml (1:1000) as measured in rat hippocampal sections
ICC optimal concentration	1µg/ml (1:1000) as measured in cultured rat neurones
Positive control	MAP2 should be found in any neural tissue sample but is not widely expressed in cell lines.
Negative control	Non-neural tissues such as liver or muscle. Most common non-neural derived cell lines, such as HeLa and HEK293 are also MAP2 negative.
Open data link	Please follow this link to OSF

Target information

Other names	MAP-2, Microtubule-associated protein 2
UniProt ID	P11137
Gene name	MAP2
NCBI full gene name	microtubule associated protein 2
Entrez gene ID	4133
Amino acids	1827 (199.5kDa)
Isoforms	MAP2 has 4 key isoforms: Isoform 1 (MAP2b), 1827aa, 199.5kDa; Isoform 2 (MAP2c), 471aa, 49.6kDa, missing aa152-1507 - juvenile isoform not expressed in adulthood; Isoform 3, 1823aa, 199.0kDa, missing aa152-155; Isoform 4, 559aa, 59.0kDa, multiple substitutions and missing aa230-1528.
Expression	Expressed highly within the brain (neuron specific) and to a lesser degree in the testes
Subcellular expression	Expressed as part of the cytoskeleton
Processing	None
Post translational modifications	MAP2 contains numerous phosphorylation sites however none occur with the epitope of HB9587
Homology (compared to human)	Mouse and rat show 79.8% and 77.7% identity to human MAP2 respectively in a BLAST search.
Similar proteins	None
Epitope homology (between species)	Human, 100% identity Mouse, 76.2% identity Rat, 71.4% identity
Epitope homology (other proteins)	No significant homology with other proteins

Storage & Handling

Storage instructions	-20°C then use reconstitution advice
Reconstitution advice	We recommend reconstituting with either: • dH_2O and storing at 4°C • 50:50 ratio of dH_2O to glycerol and storing at -20°C • dH_2O then aliquot and store at -80°C 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	For more information please see our detailed guide on storing and using your antibody This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

References

The MAP2/Tau family of microtubule-associated proteins

Dehmelt L and Halpain S (2005) Genome Biol 6(1)

PubMedID 15642108

Projection domains of MAP2 and tau determine spacings between microtubules in dendrites and axons

Chen J et al (1992) Nature 360(6405)
PubMedID 1465130

Microtubule-associated protein MAP2 shares a microtubule binding motif with tau protein

Lewis SA, Wang DH and Cowan NJ (1988) Science 242(4880)
PubMedID 3142041

Differences in the cellular distributions of two microtubule-associated proteins, MAP1 and MAP2, in rat brain

Huber G, Matus A (1984) Journal of Neuroscience 4(1)
PubMedID 6198491