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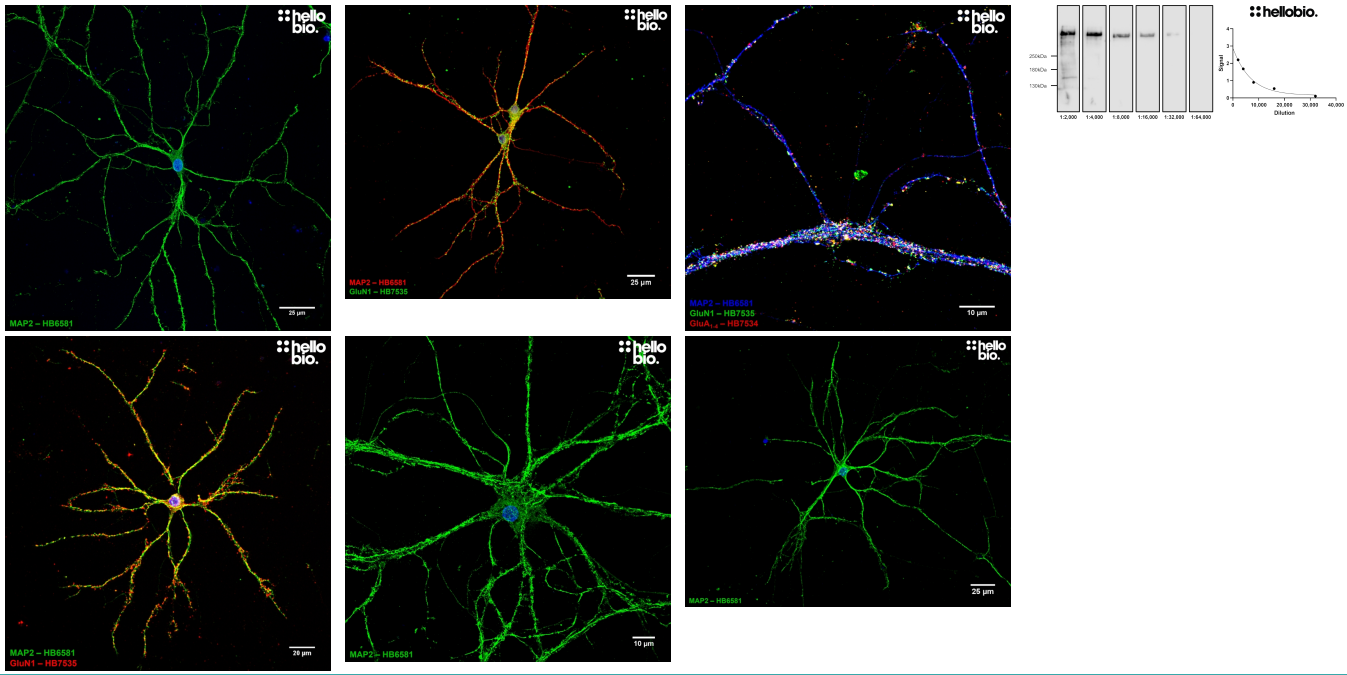
DATASHEET

Anti-MAP2 antibody ValidAb™

Product overview

Name	Anti-MAP2 antibody ValidAb™
Cat No	HB6581
Host	Chicken
Clonality	Polyclonal
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	Combination of three recombinant proteins derived from human MAP2 (aa233-684, aa712-1136 and aa1137 - 1588)
Isotype	IgY
Purification	Affinity chromatography
Formulation	Lyophilised. When reconstituted contains IgY preparation with 5mM sodium azide and 1% recombinant BSA.
Predicted species reactivity	Mouse, Rat, Human
Tested species reactivity	Mouse, Rat

Tested applications

Applications	ICC

ICC optimal concentration	1:2,000 as tested in cultured rat neurons
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
Target function	MAP2 interacts with both microtubules and F-actin to stabilise microtubules within neurones. Expression is enriched in dendrites with knockout reducing dendritic microtubule densitiy and dendrite length.
Processing	None
Post translational modifications	MAP2 contains numerous phosphorylation sites which overlap with the immunogen sequence.
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

Storage & Handling

Storage instructions	-20°C then use reconstitution advice
Reconstitution advice	Upon receipt store at either -20°C or -80°C. For 100µg packs either: • Reconstitute with 100µl dH_2O and store at 4°C • Reconstitute with 50µl dH_2O and 50µl glycerol then store at -20°C • Reconstitute with 100µl dH_2O, aliquot then snap freeze and store at -80°C For 25µg packs either: • Reconstitute with 25µl dH_2O and store at 4°C • Reconstitute with 12.5µl dH_2O and 12.5µl glycerol then store at -20°C • Reconstitute with 25µl dH_2O, aliquot then snap freeze and store at -80°C 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.
Shipping Conditions	Stable for ambient temperature shipping. Follow storage instructions on receipt.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

References

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

Huber G et al (1984) The Journal of neuroscience : the official journal of the Society for Neuroscience 4

PubMedID 6198491

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

Lewis SA et al (1988) Science (New York, N.Y.) 242
PubMedID 3142041

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

Chen J et al (1992) Nature 360
PubMedID 1465130

The MAP2/Tau family of microtubule-associated proteins.

Dehmelt L et al (2005) Genome biology 6
PubMedID 15642108