

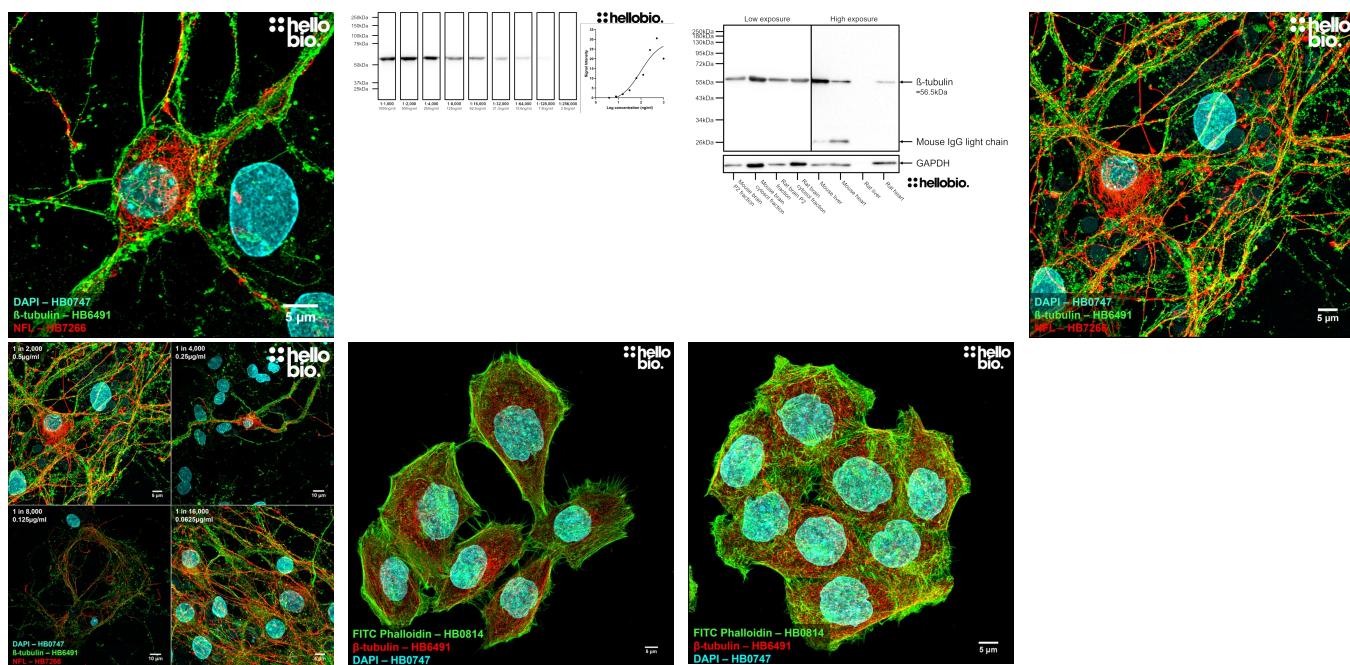
## DATASHEET

Anti- $\beta$ -tubulin antibody ValidAb<sup>TM</sup>

### Product overview

Name	Anti- $\beta$ -tubulin antibody ValidAb <sup>TM</sup>
Cat No	HB6491
Host	Mouse
Clonality	Monoclonal
Target	$\beta$ -tubulin
Description	Antibody to $\beta$ -tubulin - cytoskeletal component widely used for imaging microtubules and as a loading control. Part of the ValidAb <sup>TM</sup> range of highly validated, data-rich antibodies.

### Validation data



### Product information

Immunogen	Tubulin preparation from pig brain
Clone number	1B12
Isotype	IgG2b
Purification	Protein G affinity purified
Concentration	1 mg/ml
Formulation	1:1 ratio of PBS:Glycerol + 5mM sodium azide
Predicted species reactivity	Mouse, Rat, Human
Tested species reactivity	Mouse, Rat, Human

## Tested applications

<b>Applications</b>	ICC, WB
<b>Western blot optimal concentration</b>	0.1µg/ml (1:10,000) as tested in rat brain cytosol fraction
<b>ICC optimal concentration</b>	0.25µg/ml (1:4,000) as tested in cultured primary rat neurones
<b>Positive control</b>	β-tubulin is expressed ubiquitously across nearly all mammalian cell and tissue types. It is also widely expressed in common cell lines (e.g. HEK293, SH-SY5Y, HeLa)
<b>Negative control</b>	β-tubulin is a cytoskeletal enzyme, so complete subcellular fractionation should be sufficient to provide a negative control. Due to its high expression, care should be taken to ensure that fractionation is complete without any cytoskeletal contamination.
<b>Open data link</b>	Please follow this <a href="#">link to OSF</a>

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## Target information

<b>Other names</b>	Tubulin beta chain, Tubulin beta-5 chain, TUBB
<b>UniProt ID</b>	P07437
<b>Gene name</b>	TUBB
<b>NCBI full gene name</b>	tubulin beta class I
<b>Entrez gene ID</b>	203068
<b>Amino acids</b>	444 (49.7kDa)
<b>Isoforms</b>	β-tubulin has no isoforms other than the main sequence.
<b>Expression</b>	Expressed widely across all cell and tissue types including common cell lines.
<b>Subcellular expression</b>	Expressed in the cytoskeleton as a microtubule component.
<b>Target function</b>	β-tubulin forms dimers with α-tubulin to assemble into microtubules. The polymerisation and depolymerisation of tubulins drives microtubule dynamics within the cell. Microtubules are essential for cellular division, trafficking of vesicles, maintenance of cell shape and cell motility amongst other functions.
<b>Processing</b>	None
<b>Post translational modifications</b>	β-tubulin has phosphorylation sites on multiple residues alongside numerous gamma-glutamyl cyclotransferase sites.
<b>Homology (compared to human)</b>	Mouse and rat β-tubulin have a 98.4% and 93.2% identity to human β-tubulin as measured in a BLAST search
<b>Similar proteins</b>	No proteins (other than β-tubulin family members) show significant homology in a BLAST search

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## 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

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## References

### **Free intermingling of mammalian beta-tubulin isotypes among functionally distinct microtubules.**

Lewis SA et al (1987) Cell 49

**PubMedID**

[3552250](#)

### **Tubulin: Structure, Functions and Roles in Disease.**

Binarová P et al (2019) Cells 8

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[31652491](#)

### **The structured core of human $\beta$ tubulin confers isotype-specific polymerization properties.**

Pamula MC et al (2016) The Journal of cell biology 213

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[27185835](#)

### **beta-tubulin is a more suitable internal control than beta-actin in western blot analysis of spinal cord tissues after traumatic injury.**

Liu NK et al (2006) Journal of neurotrauma 23

**PubMedID**

[17184189](#)

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