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

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

customercare-usa@hellobio.com

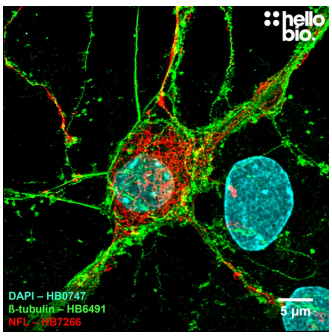
DATASHEET

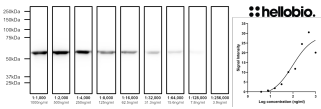
Anti-β-tubulin antibody ValidAb™

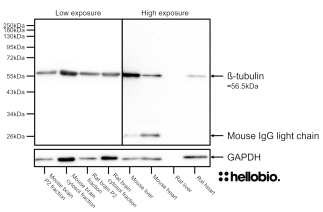
Product overview

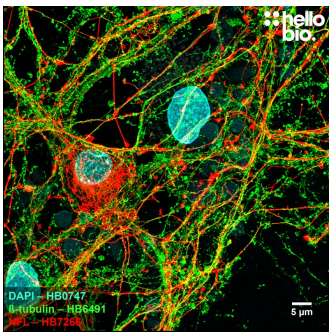
Name	Anti-β-tubulin antibody ValidAb™
Cat No	HB6491
Host	Mouse
Clonality	Monoclonal
Target	β-tubulin
Description	Antibody to β-tubulin - cytoskeletal component widely used for imaging microtubules and as a loading control. Part of the ValidAb™ range of highly validated, data-rich antibodies.

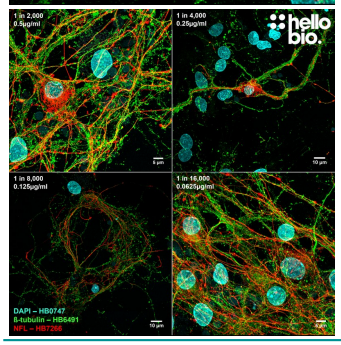
Validation data

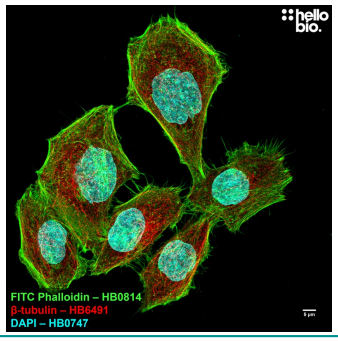


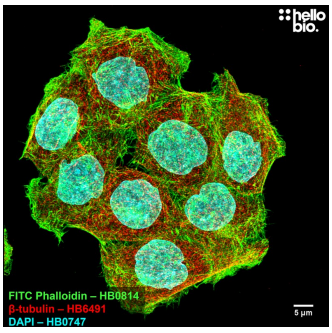












Product information

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

Applications **Western blot optimal concentration**	ICC, WB 0.1µg/ml (1:10,000) as tested in rat brain cytosol fraction
ICC optimal concentration	0.25µg/ml (1:4,000) as tested in cultured primary rat neurones
Positive control	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)
Negative control	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.
Open data link	Please follow this link to OSF

Target information

Other names	Tubulin beta chain, Tubulin beta-5 chain, TUBB
UniProt ID **Gene name** **NCBI full gene name** **Entrez gene ID**	P07437 TUBB tubulin beta class I 203068
Amino acids	444 (49.7kDa)
Isoforms	β-tubulin has no isoforms other than the main sequence.
Expression	Expressed widely across all cell and tissue types including common cell lines.
Subcellular expression	Expressed in the cytoskeleton as a microtubule component.
Target function	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.
Processing	None
Post translational modifications	β-tubulin has phosphorylation sites on multiple residues alongside numerous gamma-glutamylation sites.
Homology (compared to human)	Mouse and rat β-tubulin have a 98.4% and 93.2% identity to human β-tubulin as measured in a BLAST search
Similar proteins	No proteins (other than β-tubulin family members) show significant homology in a BLAST search

Storage & Handling

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

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
PubMedID 31652491

The structured core of human β tubulin confers isotype-specific polymerization properties.

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