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DATASHEET

Anti-β-tubulin antibody ValidAb™

Product overview

Name Anti-β-tubulin antibody ValidAbTM

 Cat No
 HB6491

 Host
 Mouse

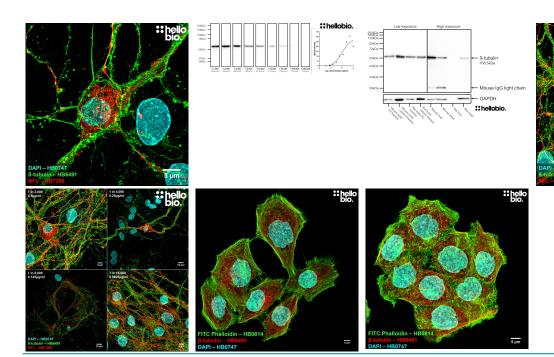
 Clonality
 Monoclonal

 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/m

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 ICC, WB

Western blot optimal

concentration

ICC optimal concentration

Positive control

0.25µg/ml (1:4,000) as tested in cultured primary rat neurones

0.1µg/ml (1:10,000) as tested in rat brain cytosol fraction

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

Tubulin beta chain, Tubulin beta-5 chain, TUBB Other names

UniProt ID P07437 Gene name **TUBB**

tubulin beta class I NCBI full gene name

Entrez gene ID 203068 Amino acids 444 (49.7kDa)

Isoforms B-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

> Mouse and rat β -tubulin have a 98.4% and 93.2% identity to human β -tubulin as measured in a BLAST

Processing None

Post translational β-tubulin has phosphorylation sites on multiple residues alongside numerous gamma-glutamylation

modifications sites.

Homology (compared to

human)

Similar proteins No proteins (other than β-tubulin family members) show significant homology in a BLAST search

Storage & Handling

Storage instructions

Important

-20°C

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