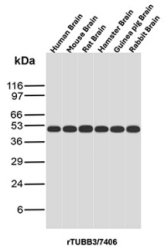
TUBB3 Antibody / Cross-Species WB Validation Antibody [clone rTUBB3/7406] (V4452)

Catalog No.	Formulation	Size
V4452-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4452-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4452SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

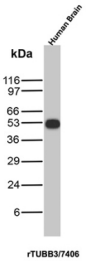
Recombinant | MOUSE MONOCLONAL

Bulk quote request

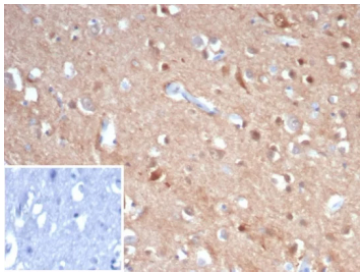
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Rabbit, Guinea pig
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rTUBB3/7406
Purity	Protein A/G affinity
UniProt	Q13509
Localization	Cytoplasm
Applications	Western blot: 1-2ug/ml (Human/Mouse/Rat/Rabbit/Hamster/Guinea pig) Immunohistochemistry (FFPE): 1-2ug/ml for 30 minutes at RT (Human)
Limitations	This TUBB3 Antibody / Cross-Species WB Validation Antibody is available for research use only.



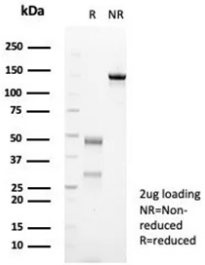
TUBB3 Antibody Cross-Species Brain WB. Western blot analysis of Beta III tubulin (TUBB3) expression across brain lysates from multiple species using TUBB3 antibody clone rTUBB3/7406. Lane 1: human brain lysate, Lane 2: mouse brain lysate, Lane 3: rat brain lysate, Lane 4: hamster brain lysate, Lane 5: guinea pig brain lysate, Lane 6: rabbit brain lysate. A band is detected at approximately 50-55 kDa in all samples, consistent with the predicted molecular weight of TUBB3. The uniform banding pattern across species supports the use of this clone for cross-species western blot validation.



TUBB3 Antibody Brain Tissue WB. Western blot analysis of Beta III tubulin (TUBB3) expression in human brain tissue lysate using TUBB3 antibody clone rTUBB3/7406. Lane 1: human brain lysate. A band is detected at approximately 50-55 kDa, consistent with the predicted molecular weight of TUBB3. The clear and specific signal supports the use of this clone for reliable western blot detection.



TUBB3 Antibody Neural Tissue IHC. Immunohistochemical analysis of Beta III tubulin (TUBB3) in formalin-fixed, paraffin-embedded human brain tissue using TUBB3 antibody clone rTUBB3/7406. Strong cytoplasmic staining is observed in neuronal cells and neuropil, consistent with TUBB3 localization in neuronal microtubules. The staining pattern supports its use in tissue-based detection of neural structures. Inset: PBS used in place of primary antibody serves as a negative control for secondary antibody binding.



SDS-PAGE analysis of purified, BSA-free TUBB3 antibody (clone rTUBB3/7406) as confirmation of integrity and purity.

Description

Tubulin beta 3 class III (TUBB3), also known as Beta III tubulin, is a neuron-enriched microtubule protein that serves as a key structural component of the neuronal cytoskeleton. TUBB3 is predominantly localized in the cytoplasm of neurons, where it incorporates into microtubules that support axonal transport, neurite extension, and maintenance of neuronal morphology. As a core element of the microtubule network, TUBB3 plays a fundamental role in preserving neuronal architecture and enabling intracellular trafficking along axons and dendrites. The TUBB3 Antibody / Cross-Species WB Validation Antibody is designed to detect this highly conserved protein with strong and consistent performance in western blot applications, particularly in brain tissue across multiple species.

TUBB3 antibody, also referred to as Beta III tubulin antibody and TUJ1 antibody in the literature, recognizes a protein that is strongly enriched in neurons and minimally expressed in most non-neuronal cell types. This restricted expression pattern makes TUBB3 a widely used marker for neuronal identity and differentiation. Western blot analysis demonstrates a clear and reproducible band at approximately 50-55 kDa across brain lysates from human, mouse, rat, hamster, guinea pig, and rabbit, consistent with the predicted molecular weight of TUBB3. The uniform detection across species highlights the high degree of sequence and structural conservation of this protein and supports its use in cross-species comparative studies and validation workflows.

Structurally, TUBB3 forms heterodimers with alpha-tubulin to assemble into microtubules, which are essential for maintaining cell shape, polarity, and intracellular transport. The Beta III isoform is distinguished by its neuron-specific expression and its contribution to dynamic microtubule behavior required for neurite outgrowth and synaptic organization. Post-translational modifications such as acetylation, detyrosination, and polyglutamylation further regulate microtubule stability and function, enabling fine control of cytoskeletal dynamics in neuronal cells.

Functionally, TUBB3 is critical for neuronal development, including axon guidance, neuronal migration, and establishment of synaptic connectivity. Its expression is upregulated during neuronal differentiation and remains elevated in mature neurons, reflecting its importance in maintaining neuronal structure and function. The consistent detection of TUBB3

across multiple species brain samples underscores its conserved biological role and supports its use as a reliable marker in biochemical assays focused on neural tissue.

In addition to its role in normal physiology, TUBB3 has been implicated in cancer biology, particularly in tumors with neural or neuroendocrine differentiation. Elevated expression of TUBB3 has been associated with altered microtubule dynamics and resistance to microtubule-targeting chemotherapeutic agents, making it a relevant marker in studies of tumor progression and therapeutic response. Its expression in tumor cells can provide insight into lineage identity and cellular phenotype.

Immunohistochemical analysis of human brain tissue demonstrates strong cytoplasmic staining in neurons and neuropil, highlighting the extensive microtubule network within neural tissue. This characteristic staining pattern provides clear visualization of neuronal morphology and complements the western blot data by confirming tissue-level localization. Clone rTUBB3/7406 is a recombinant mouse monoclonal antibody designed to detect TUBB3 with high specificity, offering consistent cross-species performance and serving as a robust tool for western blot validation and neural tissue analysis.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the TUBB3 Antibody / Cross-Species WB Validation Antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 250-450) from the human protein was used as the immunogen for the TUBB3 antibody.

Storage

Aliquot the TUBB3 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

TUBB3 antibody, Beta III tubulin antibody, TUJ1 antibody, TUBB3 WB antibody, Beta III tubulin antibody

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