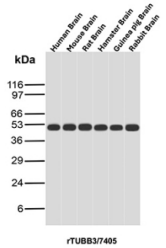
TUBB3 Antibody / Neuronal Marker Antibody [clone rTUBB3/7405] (V4451)

Catalog No.	Formulation	Size
V4451-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4451-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4451SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

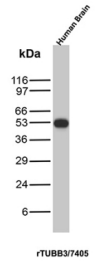
Recombinant MOUSE MONOCLONAL

Bulk quote request

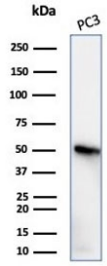
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Rabbit, Guinea pig
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rTUBB3/7405
Purity	Protein A/G affinity
UniProt	Q13509
Localization	Cytoplasm
Applications	Western Blot : 2-4ug/ml (Human/Mouse/Rat/Hamster/Rabbit/Guinea pig) Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT (Human)
Limitations	This TUBB3 Antibody / Neuronal Marker Antibody is available for research use only.



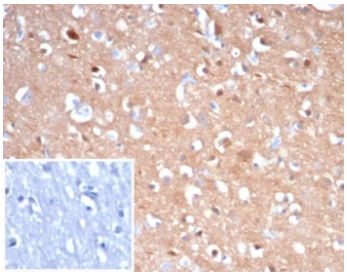
TUBB3 Antibody Multi-Species Brain WB. Western blot analysis of Beta III tubulin (TUBB3) expression across brain lysates from multiple species using TUBB3 antibody clone rTUBB3/7405. Lane 1: human brain lysate, Lane 2: mouse brain lysate, Lane 3: rat brain lysate, Lane 4: hamster brain lysate, Lane 5: guinea pig brain lysate, Lane 6: rabbit brain lysate. A band is detected at approximately 50â€“55 kDa, consistent with the predicted molecular weight of TUBB3, a neuron-specific microtubule protein. The consistent signal across species supports the use of this clone for cross-species neural tissue analysis.



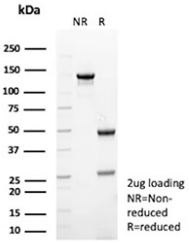
TUBB3 Antibody Human Brain WB. Western blot analysis of Beta III tubulin (TUBB3) expression in human brain tissue lysate using TUBB3 antibody clone rTUBB3/7405. Lane 1: human brain lysate. A band is detected at approximately 50â€“55 kDa, consistent with the predicted molecular weight of TUBB3. The clear detection supports the use of this clone for western blot analysis of neuronal tissues.



Western blot testing of human PC3 cell lysate with recombinant TUBB3 antibody (clone rTUBB3/7405). Predicted molecular weight ~50 kDa.



TUBB3 Antibody Brain IHC. Immunohistochemical analysis of Beta III tubulin (TUBB3) in formalin-fixed, paraffin-embedded human brain tissue using TUBB3 antibody clone rTUBB3/7405. Strong cytoplasmic staining is observed in neuronal cells and neuropil, consistent with the role of TUBB3 as a neuron-specific microtubule protein. The staining pattern highlights neuronal morphology and supports its use as a neuronal marker. Inset: PBS used in place of primary antibody serves as a negative control for secondary antibody binding.



SDS-PAGE analysis of purified, BSA-free recombinant TUBB3 antibody (clone rTUBB3/7405) 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 integrates into microtubules that support axonal transport, neurite extension, and maintenance of neuronal morphology. The TUBB3 Antibody / Neuronal Marker Antibody is designed to detect this highly specific cytoskeletal protein, enabling reliable identification of neuronal populations in both biochemical and tissue-based analyses.

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 of the central and peripheral nervous systems, with minimal expression in most non-neuronal cell types. This restricted expression profile makes TUBB3 one of the most widely used markers of neuronal differentiation and lineage. Western blot analysis demonstrates a clear and consistent band at approximately 50Ã¢Â€Â“55 kDa across brain lysates from multiple species, including 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 conservation of this protein and supports its use in cross-species neural studies.

Structurally, TUBB3 forms heterodimers with alpha-tubulin to assemble into microtubules, which are essential for intracellular transport, cell polarity, and structural integrity. The Beta III isoform is distinguished from other tubulin isoforms

by its neuron-specific expression pattern and its role in regulating microtubule dynamics. Post-translational modifications such as acetylation, detyrosination, and polyglutamylation further modulate microtubule stability and function, contributing to the specialized properties of neuronal microtubules.

Functionally, TUBB3 plays a critical role in neuronal development, including axon guidance, neuronal migration, and synaptic formation. Its expression is upregulated during neuronal differentiation and remains elevated in mature neurons, reflecting its importance in maintaining neuronal architecture and function. In brain tissue, TUBB3 is prominently expressed in neuronal cell bodies and processes, providing a robust marker for visualizing neuronal networks and organization.

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

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 supports the use of this antibody as a reliable neuronal marker. Clone rTUBB3/7405 is a recombinant mouse monoclonal antibody designed to detect TUBB3 with high specificity, offering consistent performance in western blot and tissue-based applications and serving as a robust tool for studies of neuronal biology, cytoskeletal organization, and neural tissue structure across species.

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

Application Notes

Optimal dilution of the TUBB3 Antibody / Neuronal Marker 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 recombinant 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 neuronal marker antibody, Beta III tubulin IHC antibody