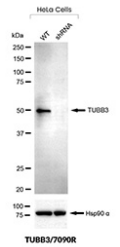
Tubulin Beta Antibody / Knockdown-Validated Antibody [clone TUBB3/7090R] (V9479)

Catalog No.	Formulation	Size
V9479-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9479-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9479SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

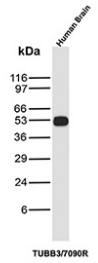
Recombinant RABBIT MONOCLONAL

Bulk quote request

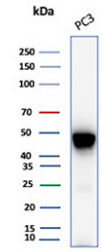
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	TUBB3/7090R
Purity	Protein A/G affinity
UniProt	Q13509
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This Tubulin Beta Antibody / Knockdown-Validated Antibody is available for research use only.



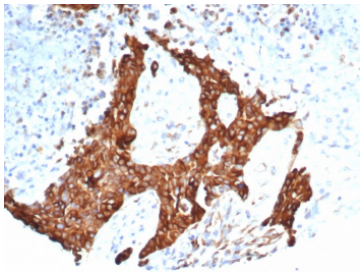
Tubulin Beta Antibody Knockdown Validation WB. Western blot analysis of Tubulin beta 3 (TUBB3) expression in wild-type (WT) and TUBB3 shRNA knockdown HeLa cells using Tubulin Beta antibody clone TUBB3/7090R. Lane 1: WT HeLa lysate, Lane 2: TUBB3 shRNA knockdown HeLa lysate. A band is detected at approximately 50-55 kDa in WT cells, consistent with the predicted molecular weight of TUBB3, and is markedly reduced in knockdown cells, confirming target-specific detection. Hsp90 alpha is shown as a loading control.



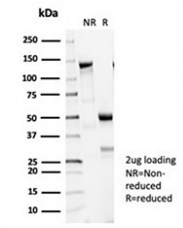
Tubulin Beta Antibody Human Brain WB. Western blot analysis of Tubulin beta 3 (TUBB3) expression in human brain tissue lysate using Tubulin Beta antibody clone TUBB3/7090R. A band is detected at approximately 50-55 kDa, consistent with the predicted molecular weight of TUBB3, supporting detection in neural tissue.



Tubulin Beta Antibody Cell Line WB. Western blot analysis of Tubulin beta 3 (TUBB3) expression in PC3 cell lysate using Tubulin Beta antibody clone TUBB3/7090R. A band is detected at approximately 50-55 kDa, consistent with the predicted molecular weight of TUBB3.



Tubulin Beta Antibody Tumor IHC. Immunohistochemical analysis of Tubulin beta 3 (TUBB3) in formalin-fixed, paraffin-embedded human ovarian carcinoma tissue using Tubulin Beta antibody clone TUBB3/7090R. Cytoplasmic staining is observed in tumor cells, consistent with localization of TUBB3 within the microtubule network.



SDS-PAGE analysis of purified, BSA-free recombinant Tubulin Beta antibody (clone TUBB3/7090R) as confirmation of integrity and purity.

Description

Tubulin beta 3 class III (TUBB3), commonly referred to as Beta III tubulin or Tubulin beta in neuronal contexts, is a microtubule protein that plays a central role in cytoskeletal organization, intracellular transport, and maintenance of cellular morphology. TUBB3 is predominantly localized in the cytoplasm, where it forms heterodimers with alpha-tubulin to assemble into microtubules that support cell shape, polarity, and dynamic transport processes. These microtubule networks are essential for vesicle trafficking, organelle positioning, and structural integrity, particularly in highly polarized cells such as neurons. The Tubulin Beta Antibody / Knockdown-Validated Antibody is designed to detect this key cytoskeletal protein with high specificity, supported by functional validation through gene silencing.

Tubulin beta antibody, also referred to as TUBB3 antibody and Beta III tubulin antibody in the literature, recognizes a highly conserved protein that is strongly expressed in neuronal tissues and also detected in select tumor types. Western blot analysis demonstrates a clear and reproducible band at approximately 50Ã¢Â€Â“55 kDa across human brain tissue and cultured cell lines, consistent with the predicted molecular weight of TUBB3. Critically, knockdown validation using TUBB3-targeted shRNA in HeLa cells results in a marked reduction of the ~50Ã¢Â€Â“55 kDa band compared to wild-type controls, providing strong evidence that the detected signal corresponds specifically to TUBB3 protein rather than non-specific reactivity. This functional confirmation represents a high-confidence validation approach that strengthens interpretation of western blot data.

Structurally, TUBB3 is a component of the alpha-beta tubulin heterodimer that polymerizes into microtubules, forming the backbone of the cytoskeletal network. The Beta III isoform is distinguished by its contribution to dynamic microtubule behavior, enabling rapid remodeling of the cytoskeleton in response to cellular signals. Post-translational modifications such as acetylation, detyrosination, and polyglutamylation further regulate microtubule stability and function, allowing fine control of cytoskeletal organization in both normal and transformed cells.

Functionally, TUBB3 is involved in processes including cell migration, intracellular transport, and differentiation. In neuronal systems, it supports neurite outgrowth, axonal transport, and maintenance of synaptic structure, making it a widely used marker of neuronal identity and cytoskeletal organization. In cancer biology, altered expression of TUBB3 has been associated with changes in microtubule dynamics and cellular phenotype, and may influence tumor progression and response to microtubule-targeting therapies. These properties make TUBB3 relevant in studies of both normal cellular architecture and disease-associated cytoskeletal remodeling.

The inclusion of knockdown validation data provides a critical layer of experimental support, demonstrating that antibody binding is reduced in cells with decreased TUBB3 expression. This approach directly links signal intensity to target protein levels and helps distinguish true target detection from background or off-target binding. As a result, this antibody is well suited for applications requiring high specificity and confidence in target identification, particularly in western blot workflows.

Immunohistochemical analysis further supports these findings, with cytoplasmic staining observed in tissue samples consistent with the localization of TUBB3 within the microtubule network. Clone TUBB3/7090R is a recombinant rabbit monoclonal antibody designed to detect TUBB3 with high specificity, providing a robust and well-validated tool for studies of cytoskeletal organization, neuronal biology, and tumor-associated microtubule dynamics.

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

Application Notes

Optimal dilution of the Tubulin Beta Antibody / Knockdown-Validated Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 437-450 from the human protein was used as the immunogen for the recombinant Tubulin Beta antibody.

Storage

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

Alternate Names

Tubulin beta antibody, TUBB3 antibody, Beta III tubulin antibody, TUJ1 antibody, TUBB3 knockdown antibody