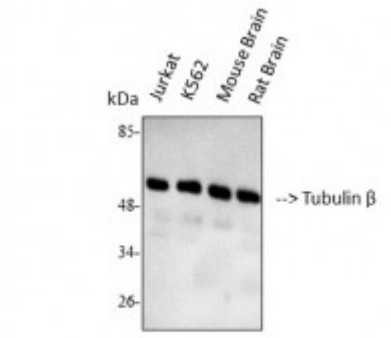
Anti-Tubulin beta antibody



Western Blot (WB) analysis of 1)Jurkat, 2)K562, 3)mouse brain, 4)rat brain cells using Tubulin β antibody (STJ96145).

Description	Beta tubulin is a protein encoded by the tubb gene which is approximately 49,7 kDa. Beta tubulin is localised to the cytoskeleton and cytoplasm. It is involved in the regulation of PLK1 activity at G2/M transition, development of Slit-Robo signalling, the innate immune system, cell cycle and organelle biogenesis and maintenance. Beta tubulin contains a highly acidic C-terminal region which can bind cations such as calcium. Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha chain and forms part of the cytoskeleton. Beta tubulin is ubiquitously expressed in the spleen, thymus and immature brain. Mutations in the tubb gene result in complex cortical dysplasia with other brain malformations. Mutations can also cause congenital symmetric circumferential, an autosomal dominant disease which results in multiple rings of folded skin mostly affecting the limbs. STJ96145 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of Tubulin beta protein.

Model	STJ96145
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, FC, IF, WB
Immunogen	Synthesized peptide derived from the C-terminal region of mouse Tubulin beta
Immunogen Region	370-450 aa, C-terminal
Gene ID	10381

Gene Symbol	TUBB3
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF/ICC 1:200-1:1000ELISA 1:5000
Specificity	Tubulin beta Polyclonal Antibody detects endogenous levels of Tubulin beta protein.
Tissue Specificity	Expression is primarily restricted to central and peripheral nervous system. Greatly increased expression in most cancerous tissues.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Tubulin beta-3 chain Tubulin beta-4 chain Tubulin beta-III
Molecular Weight	55 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:20772OMIM:600638
Alternative Names	Tubulin beta-3 chain Tubulin beta-4 chain Tubulin beta-III
Function	Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha chain. TUBB3 plays a critical role in proper axon guidance and mantainance.
Sequence and Domain Family	The highly acidic C-terminal region may bind cations such as calcium.
Cellular Localization	Cytoplasm, cytoskeleton.
Post-translational Modifications	Some glutamate residues at the C-terminus are polyglutamylated, resulting in polyglutamate chains on the gamma-carboxyl group . Polyglutamylation plays a key role in microtubule severing by spastin (SPAST). SPAST preferentially recognizes and acts on microtubules decorated with short polyglutamate tails: severing activity by SPAST increases as the number of glutamates per tubulin rises from one to eight, but decreases beyond this glutamylation threshold . Some glutamate residues at the C-terminus are monoglycylated but not polyglycylated due to the absence of functional TTLL10 in human. Monoglycylation is mainly limited to tubulin incorporated into axonemes (cilia and flagella). Both polyglutamylation and monoglycylation can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of monoglycylation is still unclear (Probable). Phosphorylated on Ser-172 by CDK1 during the cell cycle, from metaphase to telophase, but not in interphase. This phosphorylation inhibits tubulin incorporation into microtubules.

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