

Beta3-Tubulin (TUJ-1) Antibody
Purified Rabbit Polyclonal Antibody
Catalog # ABV11538**Specification**

Beta3-Tubulin (TUJ-1) Antibody - Product Information

Application	WB
Primary Accession	Q13509
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	50433

Beta3-Tubulin (TUJ-1) Antibody - Additional Information**Gene ID** 10381**Other Names**

Tubulin beta-3 chain, Tubulin beta-III

Target/Specificity

Beta-Tubulin

Formulation

100 µg (0.5 mg/ml) of antibody in PBS, 0.01 % BSA, 0.01 % thimerosal, and 50 % glycerol, pH 7.2

Handling

The antibody solution should be gently mixed before use.

Background Descriptions**Precautions**

Beta3-Tubulin (TUJ-1) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Beta3-Tubulin (TUJ-1) Antibody - Protein Information**Name** TUBB3**Synonyms** TUBB4**Function**

Tubulin is the major constituent of microtubules, a cylinder consisting of laterally associated linear protofilaments composed of alpha- and beta-tubulin heterodimers (PubMed:34996871). Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms

(PubMed:34996871). Below the cap, tubulin dimers are in GDP-bound state, owing to GTPase activity of alpha- tubulin (PubMed:34996871). TUBB3 plays a critical role in proper axon guidance and maintenance (PubMed:20074521). Binding of NTN1/Netrin-1 to its receptor UNC5C might cause dissociation of UNC5C from polymerized TUBB3 in microtubules and thereby lead to increased microtubule dynamics and axon repulsion (PubMed:28483977). Plays a role in dorsal root ganglion axon projection towards the spinal cord (PubMed:28483977).

Cellular Location

Cytoplasm, cytoskeleton. Cell projection, growth cone {ECO:0000250|UniProtKB:Q9ERD7}. Cell projection, lamellipodium {ECO:0000250|UniProtKB:Q9ERD7}. Cell projection, filopodium {ECO:0000250|UniProtKB:Q9ERD7}

Tissue Location

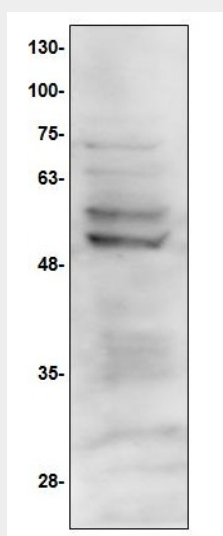
Expression is primarily restricted to central and peripheral nervous system. Greatly increased expression in most cancerous tissues.

Beta3-Tubulin (TUJ-1) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Beta3-Tubulin (TUJ-1) Antibody - Images



Western blot of Jurkat cell lysate with beta3-tubulin antibody.

Beta3-Tubulin (TUJ-1) Antibody - Background

The cytoskeleton consists of three types of cytosolic fibers: microtubules, microfilaments (actin filaments), and intermediate filaments. Globular tubulin subunits comprise the microtubule building block, with α/β -tubulin heterodimers forming the tubulin subunit common to all eukaryotic cells. γ -tubulin is required to nucleate polymerization of tubulin subunits to form microtubule polymers. Many cell movements are mediated by microtubule action, including the beating of cilia and flagella, cytoplasmic transport of membrane vesicles, chromosome alignment during meiosis/mitosis, and nerve-cell axon migration. These movements result from competitive microtubule polymerization and depolymerization or through the actions of microtubule motor proteins. $\beta 3$ -tubulin (TUBB3) is one of six β -tubulin isoforms and is expressed highly during fetal and postnatal development (axon guidance and maturation). Its expression levels decrease in the adult central nervous system (CNS) but remain high in the peripheral nervous system (PNS). Microtubules enriched in $\beta 3$ -tubulin are more dynamic than those composed of other β -tubulin isoforms. Research studies have shown that mutations in the $\beta 3$ -tubulin gene TUBB3 cause ocular motility defects and other nervous system disorders. Furthermore, $\beta 3$ -tubulin is present in neoplastic but not in normal differentiated glial cells. Thus, $\beta 3$ -tubulin is a great neuronal marker.