Synaptic Systems

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β3-Tubulin

Cat.No. 302 304; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H_2O, then aliquot and store at -20°C until use.
Applications	**WB**: 1 : 1000 up to 1 : 10000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 200 (see remarks) **IHC-P/FFPE**: 1 : 500
Immunogen	Synthetic peptide corresponding to AA 443 to 450 from mouse β3-Tubulin (UniProt Id: Q9ERD7)
Reactivity	Reacts with: human (Q13509), rat (Q4QRB4), mouse (Q9ERD7). Other species not tested yet.
Specificity	Specific for β3-tubulin.
matching control	302-3P
Remarks	**IHC**: For best results we recommend antigen retrieval with pepsin according to Lorincz A & Nusser Z (2008).

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Microtubules are involved in a wide variety of cellular activities ranging from mitosis and transport events to cell movement and the maintainance of cell shape.
Tubulin itself is a globular protein which consists of two polypeptides, α-tubulin and β-tubulin. α- and β-tubulin dimers are assembled to 13 protofilaments that form a microtubule of 22 nm diameter.
Tyrosine ligase ads a C-terminal tyrosin to monomeric α-tubulin.
Assembled microtubules can again be detyrosinated by a cytoskeleton associated carboxypeptidase. Detyrosinated α-tubulin is referred to as Glu-α-tubulin. Another post-translational modification of detyrosinated α-tubulin is C-terminal polyglutamylation which is characteristic for microtubules in neuronal cells and the mitotic spindle. A third variant of detyrosinated α-tubulin is Δ2-tubulin which lacks the C-terminal glutamic acid. It cannot be tyrosinated by tyrosine ligase and is one of the dominant α-tubulin isoforms in neurons.
Class III β-tubulin is abundant in the central and peripheral nervous systems (CNS and PNS) where it is prominently expressed during fetal and postnatal development.
It is widely used as a neuronal marker in normal and neoplastic tissues but has also been reported to be expressed in certain tumours of non-neuronal origin.

Selected References SYSY Antibodies

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Synaptotagmin-3 drives AMPA receptor endocytosis, depression of synapse strength, and forgetting.
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Science (New York, N.Y.) (2018) : . **WB; tested species: rat**

Morphological and functional differentiation in BE(2)-M17 human neuroblastoma cells by treatment with Trans-retinoic acid.
Andres D, Keyser BM, Petrali J, Benton B, Hubbard KS, McNutt PM, Ray R
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Molecular and cellular neurosciences (2017) 83: 37-45. **ICC; tested species: mouse**

Axonal transport and secretion of fibrillar forms of α-synuclein, Aβ42 peptide and HTTExon 1.
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Selected General References

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Breakdown of axonal synaptic vesicle precursor transport by microglial nitric oxide.
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Primary culture of neural precursors from the ovine central nervous system (CNS).
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