

α -Tubulin

Cat.No. 302 203; Polyclonal rabbit antibody, 100 μ g specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	100 μ g specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 100 μ l H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 up to 1 : 5000 (AP staining) IP: not recommended ICC: 1 : 100 up to 1 : 1000 IHC: 1 : 400 IHC-P/FFPE: not tested yet ELISA: yes (see remarks)
Immunogen	Synthetic peptide corresponding to AA 443 to 449 from rat Δ 2-tubulin
Reactivity	Reacts with: human, rat, mouse, mammals, chicken. Other species not tested yet.
Specificity	Recognizes glu- and tyr- α -tubulin and Δ 2-tubulin.
Remarks	ELISA: Suitable as detector antibody for sandwich-ELISA with cat. no. 302 211 or 302 201 as capture antibodies (protocol for sandwich-ELISA).

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 maintenance 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 adds 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 **Δ 2-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.

Selected References SYSY Antibodies

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins. Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al. Science (New York, N.Y.) (2014) 344(6187): 1023-8. **WB, ICC, IHC; tested species: mouse, rat**

Glyoxal as an alternative fixative to formaldehyde in immunostaining and super-resolution microscopy. Richter KN, Revelo NH, Seitz KJ, Helm MS, Sarkar D, Saleeb RS, D'Este E, Eberle J, Wagner E, Vogl C, Lazaro DF, et al. The EMBO journal (2018) 37(1): 139-159. **ICC; tested species: mouse**

Selected General References

A vital role of tubulin-tyrosine-ligase for neuronal organization. Erck C, Peris L, Andrieux A, Meissirel C, Gruber AD, Vernet M, Schweitzer A, Saoudi Y, Pointu H, Bosc C, Salin PA, et al. Proceedings of the National Academy of Sciences of the United States of America (2005) 102(22): 7853-8.

Association of tubulin carboxypeptidase with microtubules in living cells. Contin MA, Sironi JJ, Barra HS, Arce CA. The Biochemical journal (1999) 339 (Pt 2): 463-71.

Accumulation of delta 2-tubulin, a major tubulin variant that cannot be tyrosinated, in neuronal tissues and in stable microtubule assemblies. Paturle-Lafanechère L, Manier M, Trigault N, Pirolet F, Mazarguil H, Job D. Journal of cell science (1994) 107 (Pt 6): 1529-43.

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