SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

β3-Tubulin (TuJ1)

Cat.No. 302 311; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 5000 up to 1 : 10000 (AP staining) **IP**: yes **ICC**: 1 : 500 up to 1 : 2000 **IHC**: 1 : 5000 up to 1 : 10000 **IHC-P**: 1 : 2000
Clone	356E3D10
Subtype	IgG2a (κ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of mouse β3-tubulin (UniProt Id: Q9ERD7)
Reactivity	Reacts with: rat (Q4QRB4), mouse (Q9ERD7), human (Q13509). Other species not tested yet.
Specificity	Specific for β3-tubulin.
Matching control	302-3P

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

Background

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 (1).
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 25 nm diameter (1).
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 (2).
It is widely used as a neuronal marker in normal and neoplastic tissues but has also been reported to be expressed in certain tumors of non-neuronal origin (3).

Selected References for 302 311

Development of oxidized hyaluronic acid based hydrogels for neuronal tissue engineering: Effects of matrix stiffness on primary neurons.
Lorke M, Kuth S, Frischknecht R, Boccaccini AR
Acta biomaterialia (2025) 205: 454-466. . **ICC; tested species: rat**

Selected General References

Class III beta-tubulin isotype: a key cytoskeletal protein at the crossroads of developmental neurobiology and tumor neuropathology.
Katsetos CD et al. J. Child Neurol. (2003) PubMed:14736079

Expression of class III beta-tubulin correlates with unfavorable survival outcome in patients with resected non-small cell lung cancer.
Koh Y et al. J Thorac Oncol (2010) PubMed:20087230

Class III beta-tubulin is a component of the mitotic spindle in multiple cell types.
Jouhilahti EM et al. J. Histochem. Cytochem. (2008) PubMed:18796406

Early born lineage of retinal neurons express class III beta-tubulin isotype.
Sharma RK et al. Brain Res. (2007) PubMed:17900541

Breakdown of axonal synaptic vesicle precursor transport by microglial nitric oxide.
Stagi M et al. J. Neurosci. (2005) PubMed:15647478

Class III beta-tubulin in human development and cancer.
Katsetos CD et al. Cell Motil. Cytoskeleton (2003) PubMed:12740870

Primary culture of neural precursors from the ovine central nervous system (CNS).
Duittoz AH et al. J. Neurosci. Methods (2001) PubMed:11389950

Expression of class III beta-tubulin in normal and neoplastic human tissues.
Dráberová E et al. Histochem. Cell Biol. (1998) PubMed:9541471

Expression of the class III beta-tubulin isotype in developing neurons in culture.
Ferreira A et al. J. Neurosci. Res. (1992) PubMed:1527798

Posttranslational modification of class III beta-tubulin.
Lee MK et al. Proc. Natl. Acad. Sci. U.S.A. (1990) PubMed:2402501

Access the online factsheet including applicable protocols at https://sysy.com/product/302311 or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.