abcam

Product datasheet

Biotin Anti-beta Tubulin antibody [BT7R] ab173839

5 Images

Overview

Product name	Biotin Anti-beta Tubulin antibody [BT7R]
Description	Biotin Mouse monoclonal [BT7R] to beta Tubulin
Host species	Mouse
Conjugation	Biotin
Tested applications	**Suitable for:** ICC/IF, Flow Cyt, WB
Species reactivity	**Reacts with:** Mouse, Rat, Human, Non human primates, African green monkey
Immunogen	Synthetic peptide corresponding to Human beta Tubulin (N terminal) conjugated to Keyhole Limpet Haemocyanin (KLH). Database link: **P07437**
Positive control	HeLa, 293T, COS7, NRK and C2C12 cell line lysates.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C.
Storage buffer	Preservative: 0.02% Sodium azide Constituent: 99% PBS
Clonality	Monoclonal
Clone number	BT7R
Isotype	IgG2a

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab173839 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/500 - 1/2000.
Flow Cyt		Use at an assay dependent concentration. 1 µg/test. **ab97679** - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
WB		1/500 - 1/1000. Predicted molecular weight: 50 kDa.

Target

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.

Tissue specificity Ubiquitously expressed with highest levels in spleen, thymus and immature brain.

Involvement in disease Cortical dysplasia, complex, with other brain malformations 6
Skin creases, congenital symmetric circumferential, 1

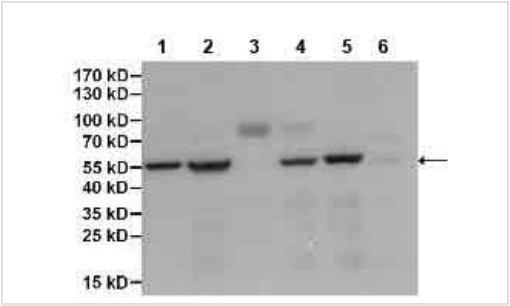
Sequence similarities Belongs to the tubulin family.

Domain The highly acidic C-terminal region may bind cations such as calcium.

Post-translational modifications Some glutamate residues at the C-terminus are polyglutamylated, resulting in polyglutamate chains on the gamma-carboxyl group (PubMed:26875866). 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 (PubMed:26875866).
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.
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.

Cellular localization Cytoplasm, cytoskeleton.

Images



Western blot - Biotin Anti-beta Tubulin antibody [BT7R] (ab173839)

All lanes : Biotin Anti-beta Tubulin antibody [BT7R] (ab173839) at 1/1000 dilution

Lane 1 : HeLa cell lysate
Lane 2 : 293T cell lysate
Lane 3 : A431 cell lysate
Lane 4 : COS7 cell lysate
Lane 5 : C2C12 cell lysate
Lane 6 : NRK cell lysate

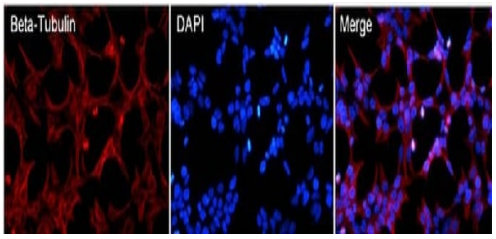
Lysates/proteins at 50 µg per lane.

Secondary
All lanes : Streptavidin-HRP at 1/20000 dilution

Developed using the ECL technique.

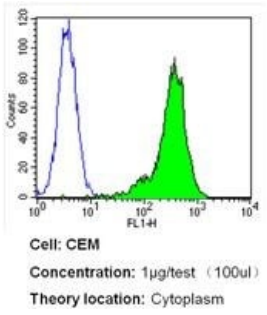
Predicted band size: 50 kDa

4-20% Tris-HCl polyacrylamide gel.



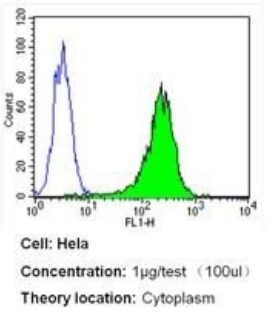
Immunocytochemistry/ Immunofluorescence - Biotin Anti-beta Tubulin antibody [BT7R] (ab173839)

Immunofluorescent analysis of Beta-Tubulin (red) in HEK293T cells. Cells fixed in 4% formaldehyde were permeabilized and blocked with 1X PBS containing 5% BSA and 0.3% Triton X-100 for 1 hour at room temperature. Cells were probed with a Beta-Tubulin monoclonal antibody (ab173839) at a dilution of 1:100 overnight at 4ºC in 1X PBS containing 1% BSA and 0.3% Triton X-100, washed with 1X PBS, and incubated with a fluorophore-conjugated goat anti-mouse IgG secondary antibody at a dilution of 1:200 for 1 hour at room temperature. Nuclei (blue) were stained with DAPI. Images were taken at 40X magnification.



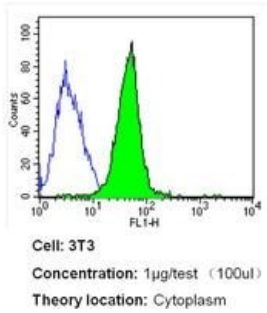
Flow Cytometry - Biotin Anti-beta Tubulin antibody [BT7R] (ab173839)

Flow cytometry analysis of Beta Tubulin in CEM cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of 1-5x10^6 cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a Beta Tubulin loading control antibody (ab173839) at a dilution of 1 ug/test for 40 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.



Flow Cytometry - Biotin Anti-beta Tubulin antibody [BT7R] (ab173839)

Flow cytometry analysis of Beta Tubulin in Hela cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of 1-5x10^6 cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a Beta Tubulin loading control antibody (ab173839) at a dilution of 1 ug/test for 40 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.



Flow Cytometry - Biotin Anti-beta Tubulin antibody [BT7R] (ab173839)

Flow cytometry analysis of Beta Tubulin in NIH-3T3 cells (green) compared to an isotype control (blue). Cells were harvested, adjusted to a concentration of 1-5x10^6 cells/ml, fixed with 2% paraformaldehyde and washed with PBS. Cells were blocked with a 2% solution of BSA-PBS for 30 min at room temperature and incubated with a Beta Tubulin loading control antibody (ab173839) at a dilution of 1 ug/test for 40 min at room temperature. Cells were then incubated for 40 min at room temperature in the dark using a Dylight 488-conjugated secondary antibody and re-suspended in PBS for FACS analysis.

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