abcam

Product datasheet

Alexa Fluor® 405 Anti-beta Tubulin antibody [EPR16774] ab206370

Recombinant RabMAb

3 Images

Overview

Product name	Alexa Fluor® 405 Anti-beta Tubulin antibody [EPR16774]
Description	Alexa Fluor® 405 Rabbit monoclonal [EPR16774] to beta Tubulin
Host species	Rabbit
Conjugation	Alexa Fluor® 405. Ex: 402nm, Em: 421nm
Tested applications	**Suitable for:** ICC/IF, Flow Cyt (Intra)
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat, Chicken, Cow, Dog, Drosophila melanogaster, Monkey, Zebrafish, Xenopus tropicalis
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Flow Cyt (intra): HeLa cells. ICC/IF: HeLa cells
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact

Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or **outlicensing@thermofisher.com**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle. Store In the Dark.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: 30% Glycerol (glycerin, glycerine), 1% BSA, PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR16774
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab206370 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		1/50. This product gave a positive signal in HeLa cells fixed with 4% formaldehyde (10 min).
Flow Cyt (Intra)		1/50.

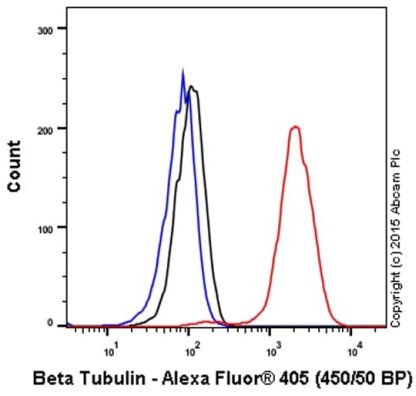
Target

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

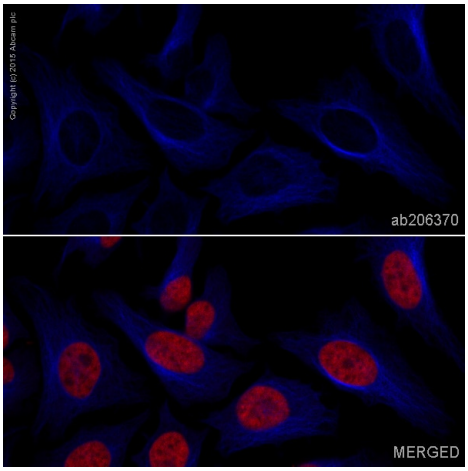


Flow Cytometry (Intracellular) - Alexa Fluor® 405 Anti-beta Tubulin antibody [EPR16774] (ab206370)

Overlay histogram showing HeLa cells stained with ab206370 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 90% methanol (-20°C) for 30 min, blocked with Image-iT® FX Signal Enhancer for 30 min at 22ºC and then blocked with 1x PBS / 10% normal goat serum. Cells were then incubated with the antibody (ab206370, 1/50 dilution) for 30 min at 22°C.

Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 405 used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50mW Violet laser (405nm) and 450/50 bandpass filter.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 405 Anti-beta Tubulin antibody [EPR16774] (ab206370)

ab206370 staining beta Tubulin in HeLa cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes, blocked with Image-iT® FX Signal Enhancer at room temperature for 30 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab206370 at 1/50 dilution (shown in blue). Nuclear DNA was labelled with **ab108410**, DRAQ5™ at 1.25uM (1/4000 dilution) (shown in red).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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