abcam

Product datasheet

FITC Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker ab64503

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Overview

Product name	FITC Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker
Description	FITC Mouse monoclonal [DM1A] to alpha Tubulin - Microtubule Marker
Host species	Mouse
Conjugation	FITC. Ex: 493nm, Em: 528nm
Tested applications	**Suitable for:** ICC/IF, Flow Cyt (Intra)
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat, Chicken, Guinea pig, Cow, Dog, Pig, Xenopus laevis, Gerbil
Immunogen	Full length native protein (purified) corresponding to alpha Tubulin.
Epitope	aa426-450. Ab64503 specifically recognizes an epitope in the carboxy-terminal part of alpha-tubulin.
Positive control	ICC/IF: HeLa cells. IHC-Fr: Xenopus laevis stage 36 tissue. Flow Cyt (Intra): HeLa cells. Cultured human fibroblasts, baby hamster kidney (BHK) cells.
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 short term (1-2 weeks). Store at -20°C. Avoid freeze / thaw cycle. Store In the Dark.
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Purity	IgG fraction

Clonality	Monoclonal
Clone number	DM1A
Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab64503 in the following tested applications.

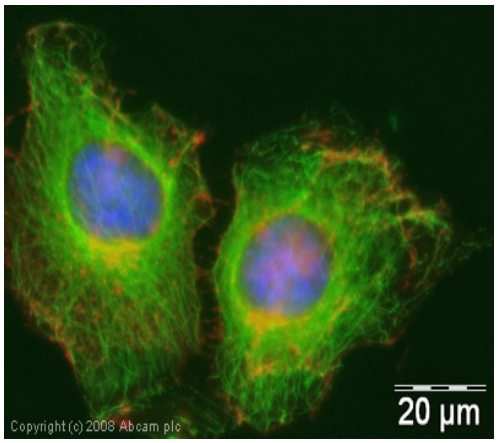
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★★ **(4)**	Use a concentration of 1 µg/ml.
Flow Cyt (Intra)		Use 5.1µl for 10^6 cells. **ab106163** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

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.
Sequence similarities	Belongs to the tubulin family.
Post-translational modifications	Some glutamate residues at the C-terminus are polyglutamylated. This modification occurs exclusively on glutamate residues and results in polyglutamate chains on the gamma-carboxyl group. Also 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) whereas glutamylation is prevalent in neuronal cells, centrioles, axonemes, and the mitotic spindle. Both modifications can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of such modifications is still unclear but they regulate the assembly and dynamics of axonemal microtubules. Acetylation of alpha chains at Lys-40 stabilizes microtubules and affects affinity and processivity of microtubule motors. This modification has a role in multiple cellular functions, ranging from cell motility, cell cycle progression or cell differentiation to intracellular trafficking and signaling.
Cellular localization	Cytoplasm > cytoskeleton.

Images



Immunocytochemistry/ Immunofluorescence - FITC Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (ab64503)

ICC/IF image of ab64503 stained human HeLa cells. The cells were methanol fixed (10 min), permabilised in 0.1% PBS-Tween (20 min) and incubated with the antibody (ab64503, 1µg/ml, FITC conjugated (green)) for 1h at room temperature. 1% BSA / 10% normal goat serum / 0.3M glycine was used to block non-specific protein-protein interactions. Alexa Fluor® 594 WGA was used to label plasma membranes (red). DAPI was used to stain the cell nuclei (blue).

Flow Cytometry (Intracellular) - FITC Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (ab64503)

Overlay histogram showing HeLa cells stained with ab64503 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab64503, 0.5µg/1x10^6 cells) for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG1 (1µg/1x10^6 cells). Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde/permeabilized in 0.1% PBS-Tween used under the same conditions.

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