abcam

ab64503

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

Anti-alpha Tubulin antibody [DM1A] conjugated to FITC - suitable for intracellular flow cytometry, ICC/IF, and reacts with mouse, human samples. Clone [DM1A] is a mouse monoclonal antibody cited in 28 publications.

Lab Essentials

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	DM1A
Purity	IgG fraction
Epitope	aa426-450.Ab64503 specifically recognizes an epitope in the carboxy-terminal part of alpha-tubulin.
Light chain type	kappa
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Predicted

Species	Rat, Chicken, Guinea pig, Cow, Dog, Pig, Xenopus laevis, Gerbil
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Mouse
Dilution info	5.1 µL for 10^6 Cells
Notes	ab106163 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat, Chicken, Guinea pig, Cow, Dog, Human, Pig, Xenopus laevis, Gerbil
Dilution info	-
Notes	-

Target data

See full target information TUBA4A

Function	Tubulin is the major constituent of microtubules, a cylinder consisting of laterally associated linear protofilaments composed of alpha- and beta-tubulin heterodimers. Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms. Below the cap, tubulin dimers are in GDP-bound state, owing to GTPase activity of alpha-tubulin.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle, Store in the dark

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Alpha tubulin also known as DM1A is an important component of the structural unit called microtubules. This protein weighs approximately 50 kDa and acts as a building block in the cytoskeleton. Alpha tubulin is expressed in various cell types across many organisms playing a fundamental role in maintaining cell shape and enabling intracellular transport. Researchers often acetylate alpha tubulin to study post-translational modifications and its effects on microtubule dynamics.
Biological function summary	Alpha tubulin combines with beta tubulin to form the tubulin dimer which is the basic unit of microtubule polymerization. These dimers assemble into microtubule filaments integral in numerous cellular processes. As part of the cytoskeleton network alpha tubulin facilitates roles in mitosis and meiosis providing spindle structures necessary for chromosome separation. Its participation in cell signaling pathways is noteworthy as it interacts with motor proteins like kinesins and dyneins to aid cellular activities.
Pathways	Alpha tubulin holds critical roles in microtubule-associated processes within the cytoskeleton and intracellular transport pathways. It interacts with the MAP (microtubule-associated protein) family which modulates microtubule stability and impacts cell division and trafficking. Moreover the microtubule pathway involves proteins like tau which bind to stabilize microtubules and are implicated in cellular dynamics and signaling.

Associated diseases and disorders	Alpha tubulin is relevant in neurodegenerative diseases such as Alzheimer's disease and cancer. Aberrant modifications or mutations in alpha tubulin or associated proteins like tau can disrupt microtubule stability contributing to pathological conditions. In cancer altered expression of alpha tubulin affects cell division leading to tumor progression and chemoresistance. Researchers study alpha tubulin using techniques such as immunofluorescence with Alexa fluor 555 to understand its role in disease better.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

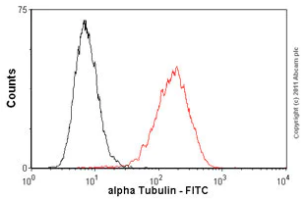
We do not recommend this combination. It is not covered by our product promise.

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2 product images

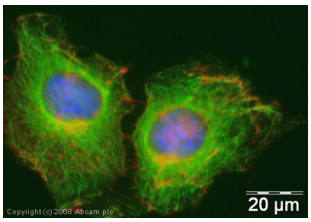


Flow Cytometry (Intracellular) - FITC Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (ab64503)

Alpha Tubulin Flow Cytometry (Intracellular) staining using mouse Anti-alpha Tubulin antibody

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 22°C. 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.



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

Alpha Tubulin Immunocytochemistry/ Immunofluorescence staining using mouse Anti-alpha Tubulin antibody

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).

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