

Mouse anti- α -Tubulin-Alexa 488[®]

Catalog no. 32-2588

(See product label for lot information)

Clone/PAD: B-5-1-2
Isotype: Mouse IgG₁.kappa
Qty: 100 μ g/200 μ l

FORM

This monoclonal antibody is supplied as a 200 μ l aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide, and BSA to bring the final protein concentration to 4-5 mg/ml after conjugation. Before Conjugation, this antibody is highly purified from mouse ascites by protein A chromatography.

REACTIVITY

Reactivity is confirmed with NIH3T3 cells, rat brain, mouse testis, human Caco-2, HeLa3 and PtK23 cells. This antibody reacts with human alpha tubulin, mouse and rat.

Validation

See www.invitrogen.com/antibodies for protocols

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by experimental conditions. The following concentration ranges are recommended starting points for this product.

Western Blotting (Unconjugated): 1-3 μ g/ml
Immunofluorescence: 2.5-5 μ g/ml

Immunogen

Sarkosyl-resistant filament from sea urchin sperm axonemes

SPECIFICITY

This antibody reacts with all forms of alpha tubulin. The expected molecular weight is ~50.5 kDa.

Storage

2-8°C for up to 1mo, -20°C for long term storage. Avoid repeated freezing and thawing.

Expiration Date

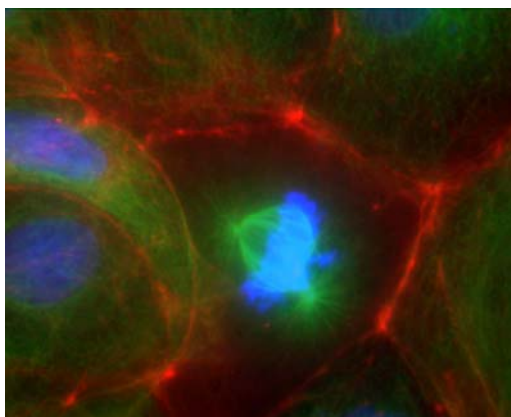
Expires one year from date of receipt when stored as instructed.

Catalog No.	Product	Conjugation	EX (nm)	EM (nm)
322500	Mouse anti- α -Tubulin	Unconjugated	--	--
322588	Mouse anti- α -Tubulin-Alexa488 [®]	Alexa 488 [®]	495	519

Background

The tubulin protein is a major target of drug molecules, and consequently, tubulin inhibitors have attracted great attention as antimetabolic antitumor agents for chemotherapeutic use.⁽¹⁾ The effects on tubulin messenger RNA levels and tubulin protein synthesis when treating cells with microtubule-depolymerizing drugs or when directly microinjecting cells with tubulin suggest that non-polymerized tubulin depresses its own synthesis.

There are three classes of the ~50 kDa tubulin proteins: alpha, beta, and gamma. The alpha and beta tubulins form a heterodimer that polymerize into the cylindrical microtubule fibers. Both alpha and beta tubulin bind GTP; however, only beta tubulin hydrolyzes GTP to GDP. This hydrolysis is a process that is linked to tubulin polymerization and microtubule formation. The alpha tubulin isomer can be modified by addition of a C-terminal tyrosine residue. This modification may influence polymerization rates. The gamma tubulin isomer is localized to centrosomes which compose the heart of the microtubule organizing center from which microtubule fibers emanate.



Human Caco-2 cells stained with Mouse anti- α -Tubulin – Alexa 488[®] (Cat.No. 322588) showing cytoskeleton, and mitotic spindle. The DNA is counter stained with blue Hoechst 33258 (Cat. No H3569) stain, and actin is stained with Alexa Fluor[®] 568 Phalloidin (Cat. No A12380). For high resolution colored figure, please visit the product page online.

REFERENCES

- Shi Q, et al. *Curr Pharm Des* 4(3):219-248, (1998).
- Caron JM, et al. *Nature* 317(6038): 648-65, (1985).
- Piperno G, et al. *J Cell Biol* 104(2):289-302(1987).

This product is for research use only. Not for use in diagnostic procedures.

www.invitrogen.com

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com