**Qty:** 100 µg/200 µl
Mouse anti-α-Tubulin
**Catalog No.** 32-2500
**Lot No.**

# Mouse anti-α-Tubulin

## FORM
This monoclonal antibody is supplied as a 200 µl aliquot at a concentration of 0.5 mg/ml in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A chromatography.

**CLONE:** B-5-1-2 **ISOTYPE:** Mouse $IgG_1$-kappa

## 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.

## REACTIVITY
Reactivity is confirmed with NIH3T3 cells, rat brain, mouse testis, HeLa[3] and PtK2[3] cells. This antibody reacts with human alpha tubulin, mouse and rat.

| Sample | Western Blotting | IF (Immunofluorescence) |
|---|---|---|
| Human | ++ | ++ |
| Mouse | ++ | ++ |
| Rat | ++ | NT |

(Excellent +++, Good++, Poor +, No reactivity 0, Not tested NT)

## USAGE
Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

**Western Blotting:** 1-3 µg/ml
**Immunofluorescence[3]:** 5-10 µg/ml

## STORAGE
Store at 2-8°C for up to one month. Store at –20°C for long term storage. Avoid repeated freezing and thawing.

(cont'd)

## BACKGROUND

The tubulin protein is a major target of drug molecules, and consequently, tubulin inhibitors have attracted great attention as antimitotic 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.

## REFERENCES

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

## RELATED PRODUCTS

| *Product* | *Clone/PAD** | *Cat. No.* |
|---|---|---|
| Mouse anti-acetylated Tubulin (alpha) | 6-11B-1 | 32-2700 |
| Mouse anti-Tubulin (beta) | 2-28-33 | 32-2600 |
| Mouse anti-Tubulin (alpha) | Z022 | 18-0092 |
| Mouse anti-Tubulin (beta) | Z023 | 18-0093 |
| Mouse anti-Tubulin (alpha) | TU-01 | 13-8000 |
| Mouse anti-Actin | ZSA1 | 03-3100 |
| Mouse anti-Actin (Sarcomeric Actin) | ZMSA-5 | 18-0177 |
| Rabbit anti-Actin | | 18-0054 |
| Protein A | Sepharose® 4B | 10-1041 |
| rec-Protein G | Sepharose® 4B | 10-1241 |

*PAD: Polyclonal Antibody Designation

| Conjugate | ZyMAX™ Goat x Rabbit IgG (H+L) | ZyMAX™ Goat x Mouse IgG (H+L) |
|---|---|---|
| Purified | 81-6100 | 81-6500 |
| FITC | 81-6111 | 81-6511 |
| TRITC | 81-6114 | 81-6514 |
| Cy™3 | 81-6115 | 81-6515 |
| Cy™5 | 81-6116 | 81-6516 |
| HRP | 81-6120 | 81-6520 |
| AP | 81-6122 | 81-6522 |
| Biotin | 81-6140 | 81-6540 |



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