



**MONOCLONAL ANTI-MAP1b (MAP5)
CLONE AA6
Mouse Ascites Fluid**

Product No. **M 4528**

Product Description

Monoclonal Anti-MAP1b (MAP5) (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Rat brain microtubule associated proteins (MAPs) were used as the immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Sigma Stock No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2).

Monoclonal Anti-MAP1b is immunospecific for MAP1b (also known as MAP5, MAPIX or MAP1.2)^{1,2} as determined by an immunoblot assay. Addition of antibody to microtubule proteins before polymerization results in abnormally short (but otherwise morphologically normal) microtubules.³ Immunohistochemical staining of brain tissue with the product shows selective labeling of dendritic trees throughout the brain. Monoclonal Anti-MAP1b reacts with human, rat, mouse, bovine, hamster, chicken and cat tissue or cells and has been applied in immunohistology using immunofluorescent or -immunoperoxidase labeling methods. Monoclonal Anti-MAP1b does not react with tubulin of other microtubule associated proteins.

MAP1b is the major microtubule associated protein in developing brain which changes its expression during development. In the newborn rat brain, it is a major component of microtubules but in the adult its level is ten-fold lower. This change in the level of expression occurs simultaneously with neuronal maturation. In cultured PC12 cells MAP1b increases ten-fold after nerve growth factor (NGF) treatment. This increase can be correlated with the NGF-induced outgrowth of neurites. MAP1b is the first MAP to appear in growing axons during development as it is present from the first emergence of the nascent axon from the cell body.

Monoclonal Anti-MAP1b may be used to study MAP expression and cytological localization both in tissues and cell lines, under different developmental and environmental circumstances. The antibody may be used to localize MAP1b, a marker of neurite outgrowth, since its

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level of expression, increases simultaneously with axon and dendrite growth during brain development. Since MAP1b levels increase during differentiation of cultured neurons including PC12 cells and human neuroblastoma (SNKH cells), Monoclonal Anti-MAP1b may be used to assay the net process formation replacing morphological measurement with the convenience and accuracy of an immunoassay.

Reagents

The product is provided as ascites fluid with 15 mM sodium azide (see MSDS)* as a preservative.

Precautions

*Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Product Profile

A minimum working dilution of 1:500 is determined by indirect immunoblotting using fresh rat brain or enriched microtubule protein preparation.

In order to obtain best results, it is recommended that each individual user determine their working dilution by titration assay.

Storage

For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is **not** recommended. Storage in "frost-free" freezers is **not** recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

References

1. Riederer, B., et al., J. Neurocytol., **15**, 763 (1986).
2. Tucker, R.P., et al., J. Comp. Neurol., **271**, 44 (1988).
3. Matus, A., et al., J. Neurochem., **49**, 714 (1987).

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