

## Product Information

### **Monoclonal-Anti-MAP2, clone HM-2**

produced in mouse, ascites fluid

Catalog Number **M4403**

#### **Product Description**

Monoclonal Anti-MAP2, clone HM-2 (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 by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-MAP2, clone HM-2, is immunospecific for all forms of MAP2 namely MAP2a, MAP2b and MAP2c as determined by an immunoblot assay. Immunohistochemical staining of brain tissue with the product shows selective labeling of dendritic trees throughout the brain. Monoclonal Anti-MAP2 reacts with human, rat, mouse, bovine, chicken and quail tissue or cells and has been applied in immunohistology using immunofluorescent or immunoperoxidase labeling methods. Monoclonal Anti-MAP2 does not react with tubulin of other microtubule associated proteins.

MAP2 is the major microtubule associated protein of brain tissue. There are three forms of MAP2; two are similarly sized with apparent molecular weights of 280 kDa (MAP2a and MAP2b) and the third with a lower molecular weight of 70 kDa (MAP2c). In the newborn rat brain, MAP2b and MAP2c are present, while MAP2a is absent. Between postnatal days 10 and 20 MAP2a appears, at levels equal to that of MAP2b. At the same time, the level of MAP2c drops by 10-fold. This change happens during the period when dendrite growth is completed and when neurons have reached their mature morphology. MAP2 is degraded by a

Cathepsin D like protease in the brain of aged rats.

There is some indication that MAP2 is expressed at higher levels in some types of neurons than in others. MAP2 is known to promote microtubule assembly and to form side-arms on microtubules. It also interacts with neurofilaments, actin and other elements of the cytoskeleton.

#### **Reagents**

Supplied as ascites fluid with 15 mM sodium azide as a preservative.

#### **Precautions**

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### **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, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

#### **Product Profile**

Indirect immunoblotting: a minimum working dilution of 1:1000 was determined using fresh rat brain or an enriched microtubule protein preparation.

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

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