

## Product Information

**Anti-MAP2 antibody, Mouse monoclonal**  
clone HM-2, purified from hybridoma cell culture

Product Number **M9942**

### Product Description

Anti-MAP2 antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the HM-2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with rat brain microtubule associated proteins (MAPs). The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2.

Anti-MAP2 antibody, Mouse monoclonal recognizes all forms of MAP2 (namely MAP2a, b and c) in human, rat, mouse, bovine, chicken, and quail. The antibody may be used in various immunochemical techniques including immunoblotting,<sup>1</sup> immunohistochemistry,<sup>2</sup> and immunocytochemistry.<sup>3</sup> 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 b) 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 neurons have reached their mature morphology.<sup>4-10</sup> MAP2 is degraded by cathepsin D like protease in the brain of aged rats. There are some indications 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.<sup>4-10</sup>

Monoclonal antibodies to MAP2 are an essential tool for studying the cytoskeleton structure in cells.

### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: approx. 2 mg/mL

### Precautions and Disclaimer

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

### Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. 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. Working dilutions should be discarded if not used within 12 hours.

### Product Profile

**Immunoblotting:** a working antibody concentration of 1–2 µg/ml is recommended using a rat brain extract.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilution by titration.

### References

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