

## Product Information

## Anti-MAP2 (2a+2b) Antibody, Mouse Monoclonal

~2 mg/mL, Clone AP-20, purified from hybridoma cell culture

**M2320**

### Product Description

Anti-MAP2 (2a + 2b) (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with bovine microtubule associated protein 2 (MAP2). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO2).

Anti-MAP2 specificity was established by an immunoblot.<sup>1</sup> The antibody localizes the high molecular weight forms of MAP2, namely MAP2a and MAP2b, but shows no reactivity with MAP2c. No cross-reactivity is observed with MAP1, MAP5, tubulin, or tau (T). The antibody reacts with human,<sup>2</sup> bovine, rat,<sup>3,4</sup> mouse,<sup>5</sup> *Xenopus*, salamander, and quail tissue or cells by immunocytochemical<sup>4</sup> techniques utilizing either a fluorescent or peroxidase label, or by immunohistochemistry.<sup>2,3,5</sup>

MAP2 is the major microtubule associated protein of brain tissue. There are three forms of MAP2; two are similarly sized with apparent molecular masses of 280 kDa (MAP2a and MAP2b) and the third with a lower molecular mass 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 the same time, the level of MAP2c drops by 10-fold.<sup>6-13</sup> 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 other types. 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>6-13</sup>

### Reagent

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

Antibody Concentration: ~2 mg/mL

### Precautions and Disclaimer

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. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

### Product Profile

**Immunoblotting:**

A working antibody concentration of 1-3 µg/mL is recommended using a rat brain preparation or rat cerebral cortex extract.

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

## References

1. Belanger, D., et al., J. Cell Sci., **115**, 1523-1539 (2002).
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4. Jolimay, N., et al., J. Neuro. **20**, 9111-9118 (2000).
5. Hevner, R.F., et al., Neuron, **29**, 353-366 (2001).
6. Binder, L.I., et al., Ann. NY Acad. Sci., **466**, 145-166 (1986).
7. Garner, C.C., and Matus, A.J., J. Cell Biol., **106**, 779-783 (1983).

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