Product name:	MAP-2ab
Cat number:	MAB-94098
Conjugate:	Unconjugated
Size:	100 ug
Clone:	WB5H11
Concentration:	1mg/ml
Host:	Ms
Isotype:	IgG2b
Immunogen:	Full length purified bovine protein, epitope mapped to projection domain of human sequence, amino acids 1057-1588.
Reactivity:	Hu, Ms,Rt, Cw
Applications:	Western Blot: 1:5,000 Immunofluorescence: : 1:500 Immunocytochemistry: 1:500 Immunohistochemistry: 1:500
Molecular Weight:	~280kDa
Purification:	Purified
Form:	Liquid
Buffer:	Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN3
Storage:	Stable at 4°C for one year, for longer term store at -20°C

Background:

Microtubules are 25nm diameter protein rods found in most kinds of eukaryotic cells and are associated with a family of proteins called microtubule associated proteins (MAPs). MAPs play a crucial role in the regulation of microtubule dynamics and interactions in vivo. MAP2 was discovered as a high molecular weight MAP with an SDS-PAGE molecular weight of about 280kDa (1-3). A single mammalian MAP2 gene may generate two high molecular weight proteins of ~280kDa named MAP2A and MAP2B and lower molecular weight forms usually named MAP2C and MAP2D which run on SDS-PAGE gels at 60-70kDa. The 60-70kDa forms are found in neurons early in development, but are later replaced by the higher molecular weight forms (2). The MAP2A and MAP2B forms include a long protein sequence which forms fine filamentous protrusions from the sides of brain microtubules, which is therefore referred to as the projection domain. The epitope for this antibody was was mapped to the projection domain so the antibody is specific for MAP2A and MAP2B. This region is one of the prototypes for "intrinsically unstructured regions", a widespread type of protein sequence (4). MAP2 isoforms are expressed only in neurons, specifically in the perikarya and dendrites of these cells. Antibodies to MAP2 isotypes are therefore excellent markers of neuronal dendrites and are useful for identifying neurons in cell culture and sections (e.g. 5-9). This antibody was raised against a preparation of bovine brain MAP2 and the epitope was mapped to the projection domain using a recombinant construct including amino acids 1057-1507 of the human sequence in Prot-r-MAP2-P3.