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 originally named as one of the higher molecular weight MAPs with an SDS-PAGE molecular weight of about 280kDa (1-3). There is a single mammalian MAP2 gene which may generate two high molecular weight MAPs with an SDS-PAGE molecular weight of about 280kDa (1-3). There is a single mammalian MAP2 gene which may generate two high molecular weight MAPs with an SDS-PAGE molecular weight of about 280kDa (1-3). There is a single mammalian MAP2 gene which may generate two high molecular weight MAPs with an SDS-PAGE molecular weight of about 280kDa (1-3).

The GPCA-MAP2 antibody was made against a mixture of recombinant human projection domain sequences, amino acids 377-1505, EnCor products Prot-r-MAP2-P1, Prot-r-MAP2-P2 and Prot-r-MAP2-P3. It binds to the MAP2A and MAP2B isoforms but not the MAP2C and MAP2D which lack projection domain sequences. EnCor markets a mouse monoclonal antibody specific for sequence found in all MAP2 isoforms, MCA-2C4, and also monoclonal antibodies binding epitopes only in MAP2A/B MCA-4H5 and MCA-5H11. We also market a chicken polyclonal antibody to MAP2 with properties similar to this goat antibody, GPCA-MAP2.

**Background:**


Immunofluorescent analysis of rat brain stem section stained with goat pAb to MAP2, GPCA-MAP2, dilution 1:2,000 in red, and costained with mouse mAb to MBP, MCA-7D2, dilution 1:5,000, in green. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45μM, and free-floating sections were stained with above antibodies. The GPCA-MAP2 antibody labels MAP2 protein in the perikarya and dendrites of the most neurons, notably motoneurons in the brain stem, and the MBP antibody stains myelin sheath around axons.

**References:**