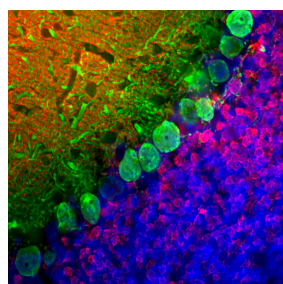
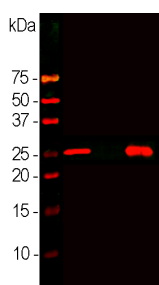


|                          |  |
|--------------------------|--|
| <b>Cat. No:</b>          | MAB-94138  |
| <b>Conjugate:</b>        | Unconjugated   |
| <b>Size:</b>             | 100 ug   |
| <b>Clone:</b>            | 4H7  |
| <b>Concentration:</b>    | 1mg/ml   |
| <b>Host:</b>             | Mouse  |
| <b>Isotype:</b>          | IgG1   |
| <b>Immunogen:</b>        | Full-length recombinant human calbindin protein, Calb1. expressed in and purified from E. coli.  |
| <b>Reactivity:</b>       | Hu, Rt, Ms, Cw, Ho, Pg, Ch<br>Western Blot: 1:1,000-1:5,000.<br>Immunofluorescence: 1:1,000.<br>Immunocytochemistry: 1:1,000.<br>Immunohistochemistry: 1:1,000.  |
| <b>Applications:</b>     |  |
| <b>Molecular Weight:</b> | 28kDa  |
| <b>Purification:</b>     | Affinity purification  |
| <b>Background:</b>       | Calbindin, also known as calbindin 1 or calbindin-D28k is a member of the large superfamily of cytoplasmic EF hand containing Calcium binding proteins and is expressed in the brain, intestine, kidney and pancreas (1-3). It is particularly concentrated in the dendrites and perikarya of cerebellar Purkinje cells, but is also found in many GABAergic interneurons in the cerebral cortex. These GABAergic interneurons in most cases express only one of three Calcium binding proteins, namely calbindin or parvalbumin or calretinin. As a result these important and physiologically distinct inhibitory interneurons can be identified and subclassified based on their content of these three proteins (4-6). The Calbindin 4H7 antibody was made against full length recombinant human calbindin expressed in and purified from E. coli, Calb1. We have shown that the antibody binds calbindin cleanly on western blots and in sections but fails to recognize the related calretinin and parvalbumin proteins. It is therefore ideally suited for identifying and subclassifying cortical GABAergic neurons. The antibody works well for western blotting and for IF, ICC and IHC. |
| <b>Form:</b>             | Liquid   |
| <b>Buffer:</b>           | Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM Na <sub>3</sub>  |
| <b>Storage:</b>          | Store at 4°C for short term, for longer term store at -20°C  |



Western blot analysis of different neuronal tissue lysates using mouse mAb to calbindin, dilution 1:2,000: [1] protein standard, [2] rat cerebellum, [3] pig hippocampus, and [4] cow cerebellum. Band at ~25 kDa corresponds to calbindin protein, heavily expressed in the cerebellum but less in hippocampus.

Immunofluorescent analysis of rat brain cerebellum section stained with mouse mAb to calbindin, dilution 1:1,000, in green, and costained with rabbit pAb to calretinin, Calretinin, dilution 1:5,000 in red. The blue is DAPI staining of nuclear DNA. Following transcardial perfusion with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45 $\mu$ M, and free-floating sections were stained with the above antibodies. Calbindin antibody prominently labels the dendrites and perikarya of Purkinje cells in the molecular layer of cerebellum. In contrast the calretinin antibody stains granule cells, in the granular layer, and their processes in the molecular layer.

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