**Vimentin Mouse Monoclonal Antibody**

**MCA-2A52**

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<td>WB, IFICC, IHC</td>
<td>Mouse</td>
<td>IgG1</td>
<td>50kDa</td>
<td>Hu, Rt, not Ms</td>
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**Western blot analysis of cell and whole brain tissue lysates using mouse mAb to vimentin, MCA-2A52, dilution 1:5,000 in green:**


**Immunofluorescence analysis of cortical neuron-glial cell culture from E20 rat stained with mouse mAb to vimentin, MCA-2A52, dilution 1:5,000 in green:**

E20 rat stained with mouse mAb to vimentin, MCA-2A52, dilution 1:5,000 in green, and costained with rabbit pAb to glial fibrillary acidic protein (GFAP), RPCA-GFAP, dilution 1:5,000 in red. The blue is DAPI staining of nuclear DNA. Fibroblastic, microglial and developing astrocytic cells contain only vimentin, and so appear green. Maturing astrocytic cells contain variable amounts of GFAP and vimentin, and so may appear red or yellow.

**Background:**

Vimentin is a protein subunit of the intermediate or 10nm filaments found in the cytoplasm of many cell types (1). Intermediate filaments are relatively stable fibrous components of cells which appear to have primarily a mechanical function. Many cell lines such as HEK293, HeLa, 3T3 and COS cells contain prominent vimentin networks (1). Vimentin is a major protein of eye lens and cornea, and found generally in mesenchymal tissues in adult mammals. In the CNS it is found in endothelia and developing neurons, developing and some mature astrocytes, microglia, mature Bergmann glia and ependyma (2,3). Mutations in the vimentin gene may cause cataracts (4,5), and elevated levels of vimentin in blood samples are associated with onset of cancer (6,7). Vimentin levels increase in a variety of cell types as they become cancerous, suggesting that increase in expression of this protein is a useful diagnostic marker of the epithelial-mesenchymal transition (8).

The MCA-2A52 was made against full length recombinant human vimentin expressed in and purified from *E. coli*, EnCor product PROT-r-Vim. Antibodies to vimentin are useful in studies of stem cells and generally to reveal the intermediate filament cytoskeleton. The immunogen used to generate this antibody was full length recombinant human vimentin, expressed in and purified from *E. coli*, EnCor product PROT-r-Vim. The same immunogen was used to produce another monoclonal antibody to vimentin MCA-2D1. We recently found that both monoclonal antibodies bind to a region in the C-terminal "tail" region of vimentin included in the peptide SRISLPNSTSLLNLRE, which is conserved in rat, cow, pig and most other species. Interestingly mouse has the peptide SRISLPNFPTNNLLRE, differing by just one amino acid, a threonine substituted for an asparagine. As a result neither MCA-2A52 nor MCA-2D1 bind this peptide. These antibodies can therefore be used to identify human or rat cells in a background of mouse cultures or tissues these antibodies can therefore be used to identify human or rat cells in a background of mouse cultures or tissues. We also market a very popular chicken polyclonal antibody to vimentin, CPICA-Vim and also a rabbit polyclonal to vimentin RPCA-Vim. These two antibodies bind vimentin expressed in a wide variety of species including mouse, rat and human.

**Abbreviation Key:**

- mAb—Monoclonal Antibody
- pAb—Polyclonal Antibody
- WB—Western Blot
- IF—Immunofluorescence
- ICC—Immunocytochemistry
- IHC—Immunohistochemistry
- ELISA—Enzyme-Linked Immunosorbent Assay
- P08670

**Immunogen:**

Purified antibody at 1mg/mL in 50% PBS, store at -20°C

**Storage:**

50% glycerol plus 5mM NaN3

**Applications:**

- WB: 1:10,000. IFICC and IHC: 1:5,000.

**Immunogen:**

Full length recombinant human vimentin, expressed in *E. coli*.

**References:**

4. Muller M, et al. Dominant cataract formation differing by just one amino acid, a threonine substituted for a asparagine. As a result neither MCA-2A52 nor MCA-2D1 bind this peptide. These antibodies can therefore be used to identify human or rat cells in a background of mouse cultures or tissues these antibodies can therefore be used to identify human or rat cells in a background of mouse cultures or tissues. We also market a very popular chicken polyclonal antibody to vimentin, CPICA-Vim and also a rabbit polyclonal to vimentin RPCA-Vim. These two antibodies bind vimentin expressed in a wide variety of species including mouse, rat and human.

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Abbreviation Key: