

Ordering Information
Web www.encorbio.com
Email admin@encorbio.com
Phone 352-372-7022
Fax 352-372-7066

HGNC Name: VIM
UniProt: P08670
RRID: AB_2572397
Immunogen: Full length recombinant human vimentin expressed in and purified from *E. coli*
Format: 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
Recommended dilutions:
WB: 1:10,000. IF/ICC and IHC: 1:1,000.

References:

1. Franke WW, et al. Different intermediate-sized filaments distinguished by immunofluorescence microscopy. *PNAS* 75:5034-8 (1978).
2. Dahl D, et al. Vimentin, the 57 000 molecular weight protein of fibroblast filaments, is the major cytoskeletal component in immature glia. *Eur. J. Cell Biol.* 24:191-6 (1981).
3. Shaw, G. et al. An immunofluorescence microscopical study of the neurofilament triplet proteins, vimentin and glial fibrillary acidic protein within the adult rat brain. *Eur. J. Cell Biol.* 26:68-72 (1981).
4. Muller M, et al. Dominant cataract formation in association with a vimentin assembly disrupting mutation. *Hum. Molec. Genet.* 18:1052-7 (2009).
5. Satelli A, Li S. Vimentin in cancer and its potential as a molecular target for cancer therapy. *Cell Mol. Life Sci.* 68:3033-46 (2011).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
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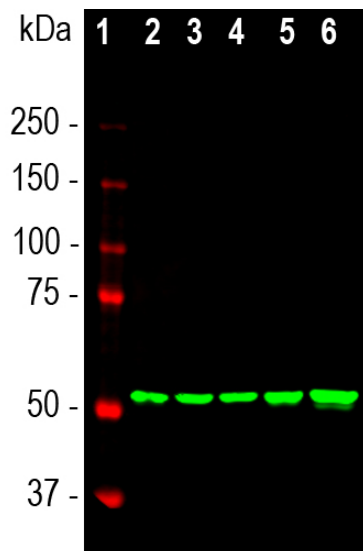
WB, IF/ICC, IHC

Mouse

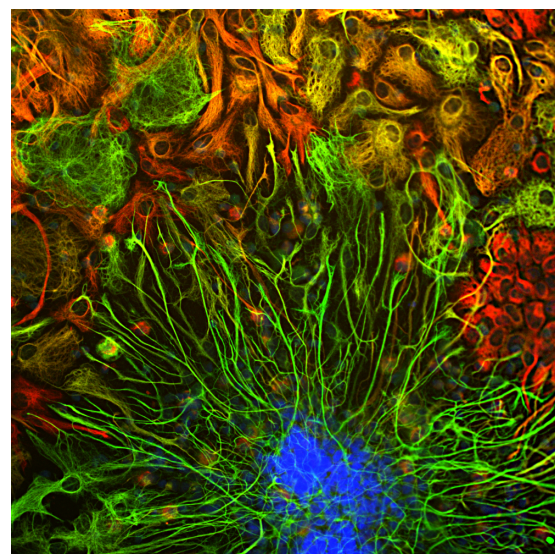
IgG2a

50kDa

Hu, Rt, not Ms



Western blot analysis of different cell lysates using mouse mAb to vimentin, MCA-2D1, dilution 1:10,000 in green: [1] protein standard (red), [2] HEK293, [3] HeLa, [4] SH-SY5Y, [5] COS-1, and [6] C6 cells. The band at about 50kDa mark corresponds to the vimentin protein.



Immunofluorescent analysis of cortical neuron-glial cell cultures from E20 rat stained with mouse mAb to vimentin, MCA-2D1, dilution 1:2,000 in red, and costained with chicken pAb to glial fibrillary acidic protein (GFAP), CPCA-GFAP, dilution 1:5,000, in green. The blue is DAPI staining of nuclear DNA. Fibroblastic and other developing cells express only vimentin and appear red. Astrocytes that express GFAP only are green while those that express both GFAP and vimentin appear golden 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. Vimentin is expressed in large amounts in HeLa, HEK293, COS7, 3T3 and other common cells lines and is a major protein of many tissues such as the eye lens. In the CNS it is found in endothelia and developing neurons, developing and some mature astrocytes, microglia, mature Bergmann glia and ependyma (2-4). Mutations in the vimentin gene may cause cataracts (5), and levels of vimentin 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 (6).

Antibodies to vimentin are useful in studies of stem cells and generally to reveal the intermediate filament cytoskeleton. The immunogen used to generate our antibody was full length recombinant human vimentin protein, [PROT-r-Vim](#), expressed in and purified from *E. coli*. expressed in and purified from *E. coli*. The same immunogen was used to produce our other monoclonal antibody to vimentin [MCA-2A52](#), which is an IgG1, unlike this antibody which is an IgG2a. We recently found that both monoclonal antibodies bind to a region in the C-terminal "tail" region of vimentin included in the peptide SRISLPLPNFSSLNLRE, which is conserved in rat, cow, pig and most other species.

Interestingly mouse has the peptide SRISLPLPTFSSLNRE, 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. We also market a very popular chicken polyclonal antibody to vimentin, [CPCA-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:

mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry
IHC—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken
Dr—*D. rerio* **Dm**—*D. melanogaster* **Sm**—*S. mutans* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli*.