

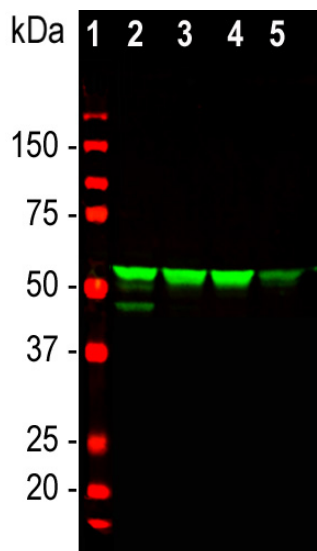
**Ordering Information**  
 Web [www.encorbio.com](http://www.encorbio.com)  
 Email [admin@encorbio.com](mailto:admin@encorbio.com)  
 Phone 352-372-7022  
 Fax 352-372-7066

**HGNC Name:** VIM  
**UniProt:** P08670  
**RRID:** AB\_2572398  
**Immunogen:** Full length recombinant human vimentin protein, *PROT-r-Vim*, expressed in and purified from *E. coli*. expressed in and purified from *E. coli*.  
**Format:** Antibody is supplied as an aliquot of serum plus 5mM NaN<sub>3</sub>  
**Storage:** Store at 4°C for short term, for longer term at -20°C. Avoid freeze / thaw cycles.  
**Recommended dilutions:**  
 Western blot: 1:10,000. IF/ICC and IHC: 1:5,000.

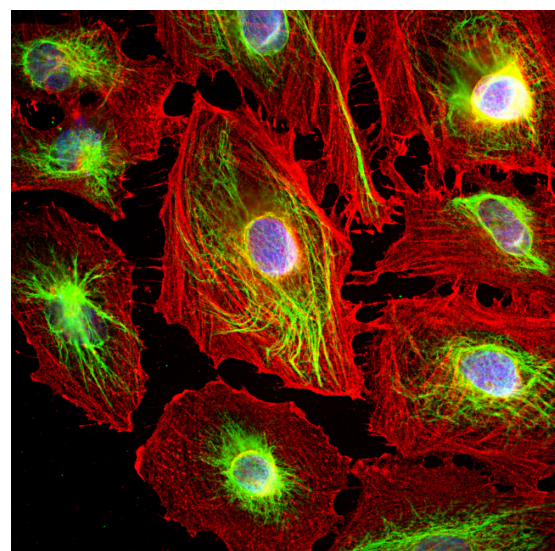
### References:

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. Zhai Y, et al. Targeted exome sequencing of congenital cataracts related genes: broadening the mutation spectrum and genotype-phenotype correlations in 27 Chinese Han families. *Sci. Rep.* 7:1219 (2017).
6. 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).
7. Wong KF, Luk JM. Discovery of lamin B1 and vimentin as circulating biomarkers for early hepatocellular carcinoma. *Meth. Mol. Biol.* 2909:295-310 (2012).
8. Jia X, et al. Vimentin-a potential biomarker for therapeutic efficiency of HAART. *Acta Biochim. Biophys. Sin. (Shanghai)* 6:1001-6 (2014).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
Western blot, ICC/IF, IHC	Rabbit		50kDa	Hu, Rt, Ms, Bo, Po, Ho



Western blot analysis of whole cell lysates using rabbit pAb to vimentin, RPCA-Vim, dilution 1:5,000, in green. [1] protein standard (red), [2] HeLa, [3] SH-SY5Y, [4] HEK293, [5] NIH-3T3 cells. Strong band corresponds to vimentin protein with apparent SDS-PAGE molecular weight of ~55kDa.



Immunofluorescence analysis of HeLa cells costained with rabbit pAb to vimentin, RPCA-Vim, dilution 1:5,000, in green, and mouse mAb to Actin, *MCA-5J11*, dilution 1:500, in red. Blue is DAPI staining of nuclear DNA. The vimentin antibody stains the 10nm or intermediate filament network of the cytoskeleton. The antibody to actin labels the submembranous actin-rich cytoskeleton, stress fibers, and bundles of actin associated with cell adhesion sites.

### 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).

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, *PROT-r-Vim*, expressed in and purified from *E. coli*. The antibody works well on all mammals tested to date on western blots and cells in culture and in sections. The same vimentin immunogen was used to produce two high quality epitope mapped monoclonal antibodies to vimentin *MCA-2A52* and *MCA-2D1*, and also a popular chicken polyclonal antibody *CPCA-VIM*.

FOR RESEARCH USE ONLY. NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE.

### 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*.