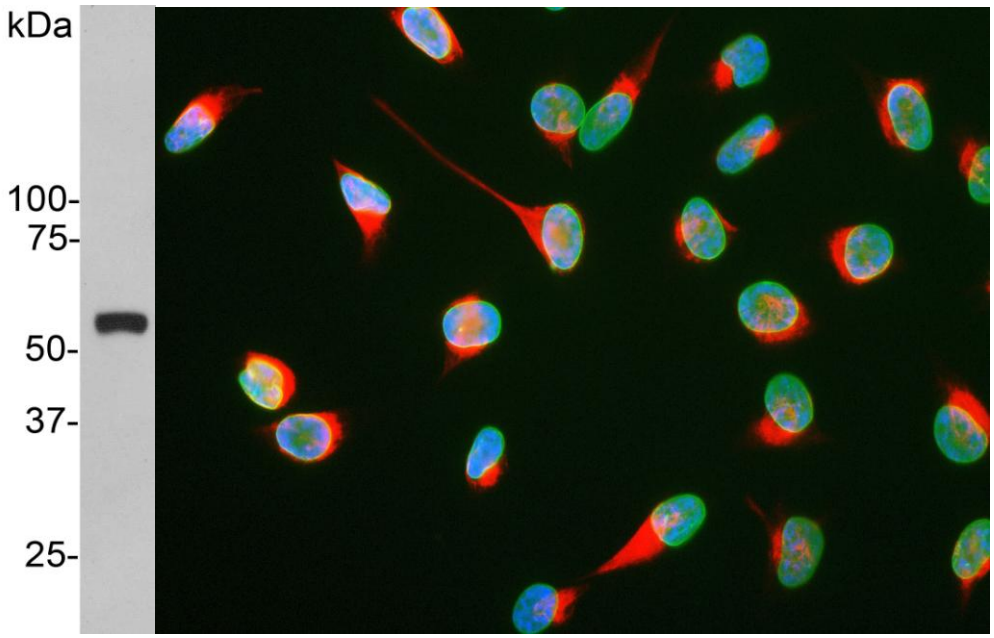
4949 SW 41st Blvd.
Suites 40 & 50
Gainesville, FL 32608
Tel: (352) 372 7022
Fax: (352) 372 7066
admin@encorbio.com

Catalogue RPCA-Vim: Rabbit Polyclonal Antibody to Vimentin-VIM

The Immunogen: Vimentin is a protein subunit of 10nm or intermediate filaments, which are major components of the cytoskeleton in most cell types. Vimentin is the major intermediate filament subunit found in mesenchymal cells, and was first named and characterized in a collaborative study from the labs of German scientists Werner Franke and Klaus Weber (1). The name derives from the Latin "*Vimentum*", meaning arrays of flexible rods such as in lattices, filigrees and wicker-work, which describes the intermediate filament network quite well. Vimentin is also found in many cell types in tissue culture, most notably fibroblasts, and in developing neuronal and astrocytic precursor cells in the central nervous system.

Many cell lines such as HEK293, HeLa, 3T3 and Cos cells contain prominent vimentin networks. Vimentin frequently forms copolymers with other intermediate filament proteins, such as GFAP (in astrocytes, ependymal cells and neural stem cells), with desmin (in muscle and endothelial cells) and neurofilament proteins (in developing neurons). A E151K point mutation in the vimentin gene was shown to be causative of an autosomal dominant pulverulent cataract disease, but so far only in a single patient (2).

Vimentin is a major protein of eye lens and cornea, and this mutation renders the molecule unable assemble into normal 10nm filaments. Antibodies to vimentin are useful in studies of stem cells and generally to reveal the filamentous cytoskeleton. The immunogen used to generate our antibody was recombinant human vimentin expressed in and purified from *E. coli*. The same immunogen was used to produce our two monoclonal antibodies to vimentin MCA-2A52, MCA-2D1 and also our chicken polyclonal antibody CPCA-Vim. The HGNC name for this protein is VIM.



Left: Western blot of crude extract of HeLa cells stained with RPCA-Vim, showing a single strong clean band at 55 kDa. **Right:** View of HeLa cells stained with RPCA-Vim (red) and counterstained with EnCor's Monoclonal antibody to Lamin A/C antibody, MCA-4C4 (in green). DNA is blue. RPCA-Vim antibody reveals strong cytoplasmic intermediate filament staining, while MCA-4C4 antibody reveals strong nuclear lamina staining.

Antibody Characteristics: Antibody was raised in rabbit against recombinant full length human vimentin expressed in and purified from *E. coli*. The antibody is provided in the form of crude rabbit serum. This antibody is known to react with vimentin from human, cow, pig, mouse, rat and other mammals. Since vimentin is highly conserved, it is likely that the antibody is effective on other species also.

Suggestions for use: The antibody solution can be used at dilutions of at least 1:5,000 in immunofluorescence experiments. In western blotting using chemiluminescence it can be used at dilutions of 1:10,000. Antibody preparation contains 10 mM sodium azide preservative (Link to http://www.encorbio.com/MSDS/azide.htm for Material Safety Data Sheet). Avoid repeated freezing and thawing, store at 4°C or -20°C.

Omim link: http://omim.org/entry/193060

References:

1. Franke, W. W., Schmid, E., Osborn, M. and Weber, K. Different intermediate-sized filaments distinguished by immunofluorescence microscopy. Proc. Natl. Acad. Sci. USA 75:5034–5038 (1978).

2. Muller, M., Bhattacharya, S. S., Moore, T., Prescott, Q., Wedig, T., Herrmann, H., Magin, T. M. Dominant cataract formation in association with a vimentin assembly disrupting mutation. Hum. Molec. Genet. 18:1052-1057 (2009).

Limitations: This product is for research use only and is not approved for use in humans or in clinical diagnosis.