



1P-369-C100

## Monoclonal Antibody to Vimentin Phycoerythrin (PE) conjugated (0.1 mg)

<b>Clone:</b>	VI-RE/1
<b>Isotype:</b>	Mouse IgG1
<b>Specificity:</b>	The antibody VI-RE/1 reacts with human vimentin, a 57 kDa intermediate filament protein expressed on a wide variety of mesenchymal and mesodermal cell types.
<b>Regulatory Status:</b>	RUO
<b>Immunogen:</b>	Bacterially expressed full-length human vimentin
<b>Species Reactivity:</b>	Human
<b>Negative Species:</b>	Porcine, Mouse
<b>Preparation:</b>	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography.
<b>Concentration:</b>	0.1 mg/ml
<b>Storage Buffer:</b>	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
<b>Storage / Stability:</b>	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis. Suggested working concentration is 10 µg/ml. Indicated concentration is recommended starting point for use of this product. Working concentrations should be determined by the investigator.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label

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**Antibodies****Background:**

Vimentin (57 kDa) is the most ubiquitous intermediate filament protein and the first to be expressed during cell differentiation. All primitive cell types express vimentin but in most non-mesenchymal cells it is replaced by other intermediate filament proteins during differentiation. Vimentin is expressed in a wide variety of mesenchymal cell types - fibroblasts, endothelial cells etc., and in a number of other cell types derived from mesoderm, e.g., mesothelium and ovarian granulosa cells. In non-vascular smooth muscle cells and striated muscle, vimentin is often replaced by desmin, however, during regeneration, vimentin is reexpressed. Cells of the lympho-haemopoietic system (lymphocytes, macrophages etc.) also express vimentin, sometimes in scarce amounts. Vimentin is also found in mesoderm derived epithelia, e.g. kidney (Bowman capsule), endometrium and ovary (surface epithelium), in myoepithelial cells (breast, salivary and sweat glands), and in thyroid gland epithelium. In these cell types, as in mesothelial cells, vimentin is coexpressed with cytokeratin.

Furthermore, vimentin is detected in many cells from the neural crest. Particularly melanocytes express abundant vimentin. In glial cells vimentin is coexpressed with glial filament acidic protein (GFAP).

Vimentin is present in many different neoplasms but is particularly expressed in those originated from mesenchymal cells. Sarcomas e.g., fibrosarcoma, malignant fibrous histiocytoma, angiosarcoma, and leiomyosarcoma, as well as lymphomas, malignant melanoma and schwannoma, are virtually always vimentin positive. Mesoderm derived carcinomas like renal cell carcinoma, adrenal cortical carcinoma and adenocarcinomas from endometrium and ovary usually express vimentin. Also thyroid carcinomas are vimentin positive. Any low differentiated carcinoma may express some vimentin.

Vimentin is frequently included in the so-called primary panel (together with CD45, cytokeratin, and S-100 protein). Intense staining reaction for vimentin without coexpression of other intermediate filament proteins is strongly suggestive of a mesenchymal tumour or malignant melanoma.

**References:**

\*Chen YK, Chang WS, Wu IC, Li LH, Yang SF, Chen JY, Hsu MC, Chen SH, Wu DC, Lee JM, Huang CH, Goan YG, Chou SH, Huang CT, Wu MT: Molecular characterization of invasive subpopulations from an esophageal squamous cell carcinoma cell line. *Anticancer Res.* 2010 Mar;30(3):727-36.

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EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic  
Tel: +420 261 090 666 | Fax: +420 261 090 660 | [orders@exbio.cz](mailto:orders@exbio.cz) | [www.exbio.cz](http://www.exbio.cz)