OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene Technologies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info-de@origene.com

SM3128P Monoclonal Antibody to Vimentin - Purified

Alternate names:	VIM
Quantity:	0.1 mg
Concentration:	1.0 mg/ml
Background:	Vimentin (57 kDa) is the most ubiquituos 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 cellsand striated muscle, vimentin is often replaced by desmin, however, during regeneration, vimentin is reexpressed. Cells of the lymfo-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), an 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 Fibrillary Acidic Protein (GFAP). Vimentin is present in many different neoplasms but is particulary expressed in those originated from mesenchymal cells. Sarcomas e.g., fibrosarcoma, malignt fibrous histiocytoma, angiosarcoma, and leio- and rhabdomyosarcoma, 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.
Uniprot ID:	P08670
NCBI:	NP_003371.2
GeneID:	7431
Host / Isotype:	Mouse / IgM
Recommended Isotype Controls:	SM13P
Clone:	VI-01

Immunogen: Pellet of pig brain cold stable proteins after depolymerization of microtubules

Format:
State: Liquid purified Ig fraction (› 95% by SDS-PAGE)
Purification: Precipitation Methods
Buffer System: PBS , pH~7.4
Preservatives: 15 mM Sodium Azide

Applications:
Western blot.
Immunocytochemistry:
Staining technique: RBL Rat basophilic leukemia cell line: (a) Fix cells for 10 min in methanol at -20°C and for 6 min in acetone at -20°C; (b) Fix cells directly in methanol for 10 min at -20°C or in acetone for 10 min at -20°C.
Incubation Time: 45 min RT
Positive Control: 3T3 Mouse Swiss albino fibroblast cell line RBL, Rat basophilic leukemia cell line.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: The antibody reacts with Vimentin, a 57 kDa intermediate filament expressed in variety of mesenchymal and mesodermal cell types in all species (recognized epitope conserved within all species).
Cross-reactivity was found with smooth muscle Desmin.
Species: Mammalian.
Other species not tested.

Storage: Store the antibody undiluted at 2 - 8°C.
DO NOT FREEZE!
Shelf life: one year from despatch.

Product Citations:
Originator or purchased from resellers:
1. Dráberová E, Dráber P, Havlícek F, Viklický V. A common antigenic determinant of vimentin and desmin defined by monoclonal antibody. Folia Biol (Praha). 1986;32(5):295-303. PubMed PMID: 2465190.
2. Bacáková L, Mares V, Lisá V, Svorcík V. Molecular mechanisms of improved adhesion and growth of an endothelial cell line cultured on polystyrene implanted with fluorine ions. Biomaterials. 2000 Jun;21(11):1173-9. PubMed PMID: 10817270.
3. Bacáková L, Mares V, Bottone MG, Pellicciari C, Lisá V, Svorcík V. Fluorine ion-implanted polystyrene improves growth and viability of vascular smooth muscle cells in culture. J Biomed Mater Res. 2000 Mar 5;49(3):369-79. PubMed PMID: 10602070.

General Readings:
1. Lukás Z, Dráber P, Bucek J, Dráberová E, Viklický V, Stasková Z. Expression of vimentin and glial fibrillary acidic protein in human developing spinal cord. Histochem J. 1989 Dec;21(12):693-701. PubMed PMID: 2482269.
2. Lukás Z, Dráber P, Bucek J, Dráberová E, Viklický V, Dolezel S. Expression of phosphorylated high molecular weight neurofilament protein (NF-H) and vimentin in human developing dorsal root ganglia and spinal cord. Histochemistry. 1993 Dec;100(6):495-502. PubMed PMID: 8163392.

Pictures:

Figure 1. Immunofluorescence staining of 3T3 mouse embryonal fibroblast cell line with anti-Vimentin (VI-01) Dyomics 547. Nuclei are stained with DAPI (blue).

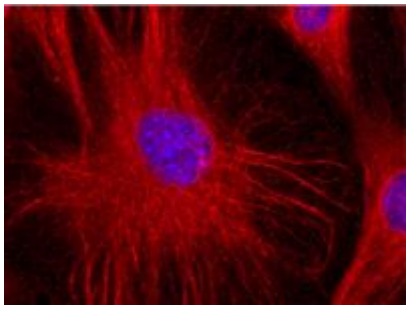

Figure 2. Immunofluorescence staining of RBL rat basophilic cell line with anti-Vimentin (VI-01) Dyomics 547. Nuclei are stained with DAPI (blue).

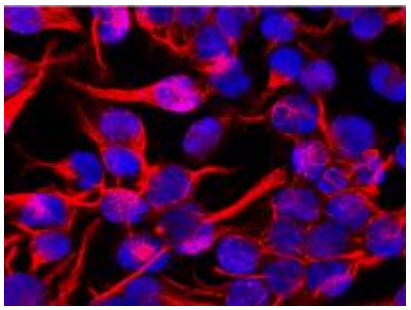

Figure 3. Western Blotting analysis of Vimentin in whole cell lysate of LEP-19 human fibroblast cell line (1,3) and 3T3 mouse fibroblast cell line (2,4). Lane 1,2: immunostaining with anti-Vimentin (VI-01) Lane 3,4: immunostaining with anti-human Vimentin (VI-RE/1; SM3129P)

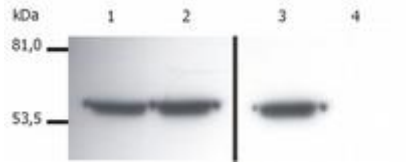

Figure 4. Immunoprecipitation of vimentin from HeLa cell lysate by antibody VI-10 and its detection by antibody VI-01. IgM heavy chain (76-92 kDa) and IgM light chain (25-30 kDa) indicated. Mr of vimentin is 57 kDa. Lr = lysate (reducing conditions) Lnr = lysate (non-reducing conditions) IPr = immunoprecipitate (reducing conditions) IPnr = immunoprecipitate (non-reducing conditions)