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Vimentin Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1250a

Product Information

Application	WB, IHC, E
Primary Accession	P08670
Reactivity	Human, Monkey
Host	Mouse
Clonality	Monoclonal
Clone Names	4F2E9
Isotype	IgG1
Calculated MW	53652
Description	Vimentin, also know as VIM. It is the major subunit protein of the intermediate filaments of mesenchymal cells. It is believed to be involved with the intracellular transport of proteins between the nucleus and plasma membrane. Vimentin has been implicated to be involved in the rate of steroid synthesis via its role as a storage network for steroidogenic cholesterol containing lipid droplets. Vimentin phosphorylation by a protein kinase causes the breakdown of intermediate filaments and activation of an ATP and myosin light chain dependent contractile event. This results in cytoskeletal changes that facilitate the interaction of the lipid droplets within mitochondria, and subsequent transport of cholesterol to the organelles leading to an increase in steroid synthesis. Immunohistochemical staining for Vimentin is characteristic of sarcomas (of neural, muscle and fibroblast origin) compared to carcinomas which are generally negative. Melanomas, lymphomas and vascular tumors may all stain for Vimentin. Vimentin antibodies are thus of value in the differential diagnosis of undifferentiated neoplasms and malignant tumors. They are generally used with a panel of other antibodies including those recognising cytokeratins, lymphoid markers, S100, desmin and neurofilaments.
Immunogen	Purified recombinant fragment of Vimentin (aa2-466) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	7431
Other Names	Vimentin, VIM
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store

	at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Vimentin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	VIM (HGNC:12692)
Function	Vimentins are class-III intermediate filaments found in various non-epithelial cells, especially mesenchymal cells. Vimentin is attached to the nucleus, endoplasmic reticulum, and mitochondria, either laterally or terminally. Plays a role in cell directional movement, orientation, cell sheet organization and Golgi complex polarization at the cell migration front (By similarity). Protects SCRIB from proteasomal degradation and facilitates its localization to intermediate filaments in a cell contact-mediated manner (By similarity). May promote axon outgrowth and motor fiber repair via DSP-mediated recruitment to outgrowth tips (By similarity).
Cellular Location	Cytoplasm. Cytoplasm, cytoskeleton. Nucleus matrix {ECO:0000250|UniProtKB:P31000}. Cell membrane {ECO:0000250|UniProtKB:P20152}. Cell projection, axon {ECO:0000250|UniProtKB:P20152}
Tissue Location	Highly expressed in fibroblasts, some expression in T- and B-lymphocytes, and little or no expression in Burkitt's lymphoma cell lines. Expressed in many hormone-independent mammary carcinoma cell lines.

References

1. Cancer Res. 2003 May 15;63(10):2658-64. 2. Exp Cell Res. 2007 Oct 15;313(17):3718-28.

Images

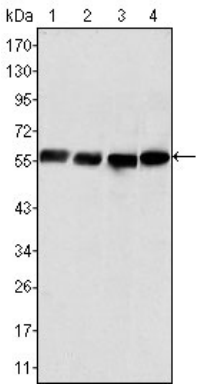
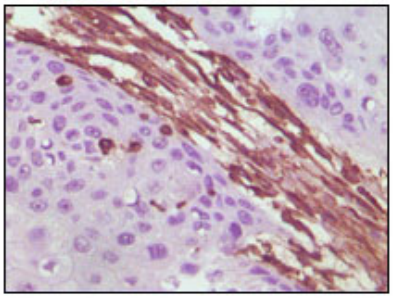


Figure 1: Western blot analysis using Vimentin mouse mAb against Hela (1), COS (2), HEK293 (3) and U20S (4) cell lysate.

Figure 2: Immunohistochemical analysis of paraffin-embedded human lung carcinoma tissue, showing cytoplasmic localization using Vimentin mouse mAb with DAB staining.



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