9853 Pacific Heights Blvd.
Suite D. San Diego,
CA 92121, USA
Tel: 858-263-4982
Email: info@abeomics.com

30-1155: Anti-Vimentin Monoclonal Antibody (Clone:VI-01)

Clonality :	Monoclonal
Clone Name :	VI-01
Application :	WB
Format :	Purified
Isotype :	Mouse IgM
Immunogen Information :	Pellet of porcine brain cold stable proteins after depolymerization of microtubules.

Description

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.

Product Info

Amount :	0.1 mg
Purification :	Purified by precipitation and chromatography
Storage condition :	Store at 2-8°C. Do not freeze.

Application Note

Immunocytochemistry: Staining technique: (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. Positive control: 3T3 murine Swiss albino fibroblast cell line, RBL rat basophilic leukemia cell line.
Flow cytometry: Recommended dilution: 1-5 µg/ml. Intracellular staining.

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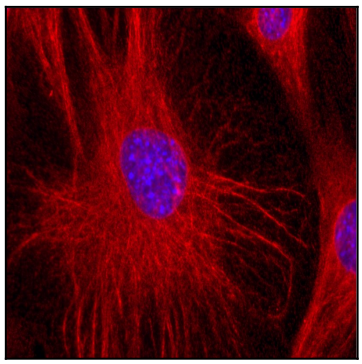

Figure 1: Immunofluorescence staining of 3T3 mouse embryonal fibroblast cell line with anti-Vimentin (VI-01) Dyomics 547. Nuclei are stained with DAPI (blue).

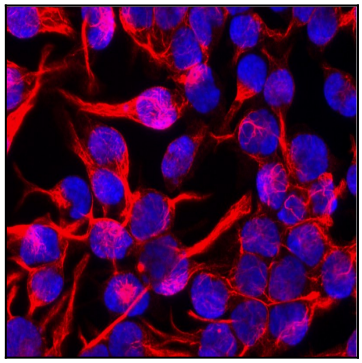

Figure 2: Immunofluorescence staining of RBL rat basophilic cell line with anti-Vimentin (VI-01) Dyomics 547. Nuclei are stained with DAPI (blue).

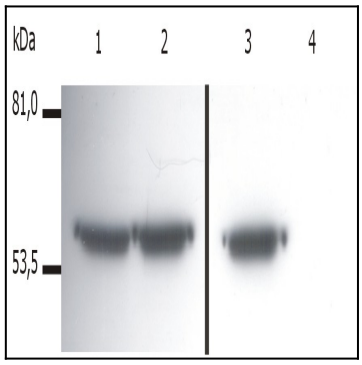

Figure 3: Western Blotting analysis of Vimentin in whole cell lysate of LEP-19 human fibroblast cell line (1,3) and 3T3 mouse fibroblast cell line (2,4).Lane 2: immunostaining with anti-Vimentin (VI-01)Lane 3,4: immunostaining with anti-human Vimentin (VI-RE/1;)

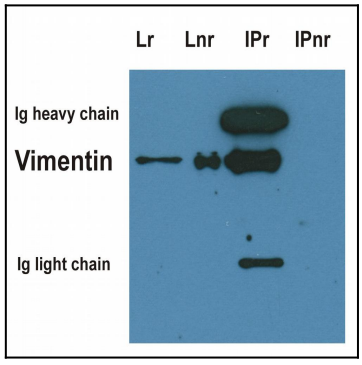

Figure 4: Immunoprecipitation of vimentin from HeLa cell lysate by antibody VI-10 and its detection by antibody VI-01. IgM heavy chain (76-92 kDa) and IgM light chain (25-30 kDa) indicated. Mr of vimentin is 57 kDa.Lr = lysate (reducing conditions)Lnr = lysate (non-reducing conditions)IPr = immunoprecipitate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