Product Datasheet

Vimentin Antibody (2D1) - BSA Free
NBP1-92687

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

Reviews: 1 Publications: 11

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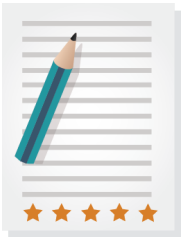
Updated 2/21/2025 v.20.1



NBP1-92687

Vimentin Antibody (2D1) - BSA Free

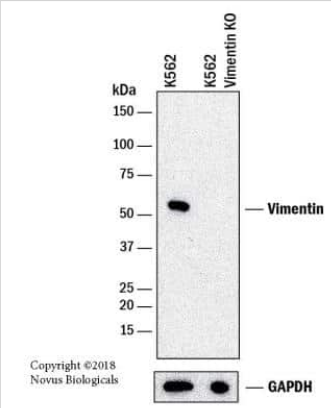
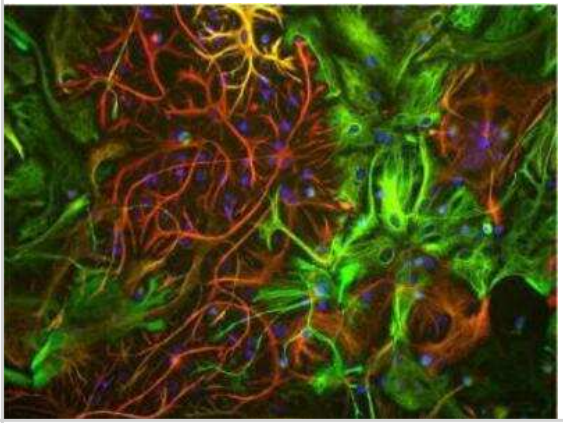
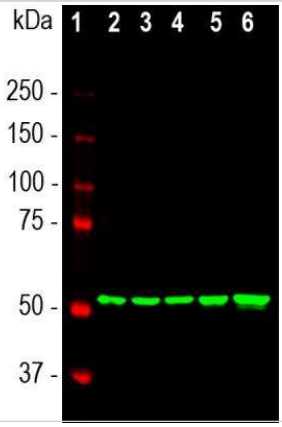
Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	2D1
Preservative	0.035% Sodium Azide
Isotype	IgG2a
Purity	Protein G purified
Buffer	50% PBS, 50% glycerol
Target Molecular Weight	53.6 kDa

Product Description	
Host	Mouse
Gene ID	7431
Gene Symbol	VIM
Species	Human, Rat, Mouse (Negative)
Reactivity Notes	Clones 2D1 (NBP1-92687) and 2A52 (NBP1-92688) both failed to detect the target in mouse tissues although they work well on human and rat samples. This allowed us to firmly map the epitope for both antibodies to the peptide SRISLPLPNFSSLNREL, amino acids 409-425 of the human sequence. This peptide is located at the beginning of the non-helical "tail" region of the molecule and the peptide is totally conserved between human and rat and in most mammalian species, including cow, pig, horse, camel, and many monkeys. Interestingly mouse has the peptide SRISLPLPTFSSLNREL divergent by one amino acid, and neither clones bind this peptide. As a result these antibodies can be used to identify human or rat cells in mouse cultures or tissues and may work with other species that also contain this peptide.
Marker	Mesenchymal Cells Marker
Immunogen	Full length recombinant human Vimentin Antibody expressed in and purified from E. coli. [UniProt# P08670]

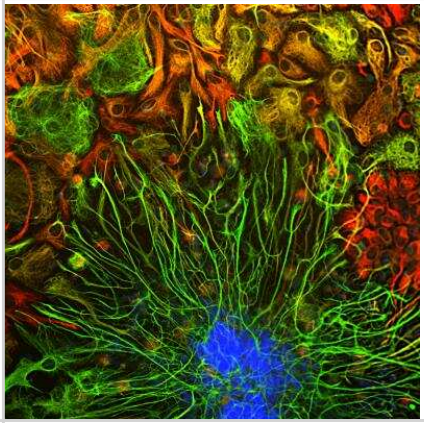
Product Application Details	
Applications	Western Blot, Simple Western, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Knockout Validated
Recommended Dilutions	Western Blot 1:10000, Simple Western 1:100, Immunohistochemistry 1:1000, Immunocytochemistry/ Immunofluorescence 1:1000, Immunohistochemistry-Paraffin, Knockout Validated

Application Notes	This Vimentin (2D1) antibody is useful for Immunocytochemistry/Immunofluorescence, Immunohistochemistry, and Western blot, where a band can be seen at approximately 50 kDa. Use in IHC-P was reported in scientific literature (PMID: 30327566). In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. See Simple Western Antibody Database for Simple Western validation: Tested in HeLa lysate 0.5 mg/mL, separated by Size, antibody dilution of 1:100, apparent MW was 59 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue.

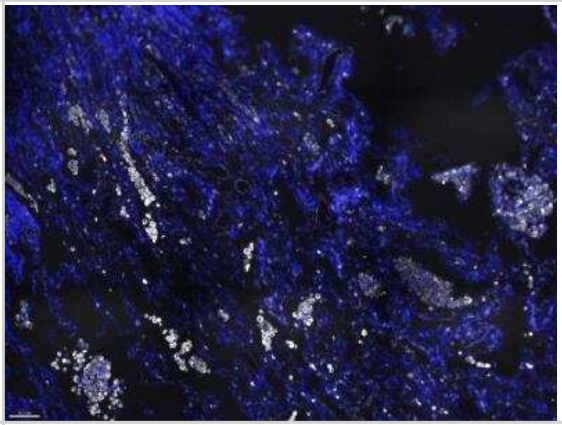
Images

Western Blot: Vimentin Antibody (2D1) [NBP1-92687] - Western blot shows lysates of K562 human Chronic Myelogenous Leukemia parental cell line and Vimentin knockout (KO) K562 cell line. PVDF membrane was probed with 1:10,000 of Mouse Anti-Human Vimentin Monoclonal Antibody (Catalog # NBP1-92687) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog #HAF018). Specific band was detected for Vimentin at approximately 55 kDa (as indicated) in the parental K562 cell line, but is not detectable in the knockout K562 cell line. This experiment was conducted under reducing conditions.	
Immunocytochemistry/Immunofluorescence: Vimentin Antibody (2D1) [NBP1-92687] - View of mixed neuron/glial cultures stained with NBP1-92687 (green) and the GFAP rabbit polyclonal (NB300-141, red). Vimentin is expressed alone in fibroblastic and endothelial cells, which are the flattened cells in the middle of the image which appear green. Astrocytes may express primarily GFAP, or GFAP and Vimentin, and so appear red (GFAP only) or golden yellow (GFAP and Vimentin). In cells which express both GFAP and Vimentin, the two proteins assemble to produce heteropolymer filaments.	
Western Blot: Vimentin Antibody (2D1) [NBP1-92687] - Analysis of different cell lysates using mouse mAb to vimentin, NBP1-92687, dilution 1:10,000 in green: [1] protein standard (red), [2] HEK293, [3] HeLa, [4] SH-SY5Y, [5] COS-1, and [6] C6 cells. The band at about 50kDa mark corresponds to the vimentin protein.	

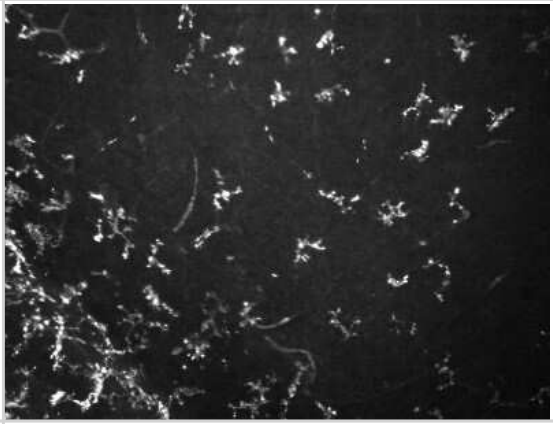
Immunocytochemistry/Immunofluorescence: Vimentin Antibody (2D1) [NBP1-92687] - Analysis of cortical neuron-glial cell cultures from E20 rat stained with mouse mAb to vimentin, NBP1-92687, dilution 1:2,000 in red, and costained with chicken pAb to glial fibrillary acidic protein (GFAP), dilution 1:5,000, in green. The blue is DAPI staining of nuclear DNA. Fibroblastic and other developing cells express only vimentin and appear red. Astrocytes that express GFAP only are green while those that express both GFAP and vimentin appear golden yellow.



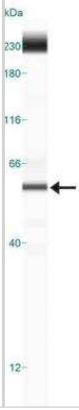
Immunohistochemistry-Paraffin: Vimentin Antibody (2D1) [NBP1-92687] - Human breast cancer tissue stained for Vimentin (white) and countersatined with DAPI (blue). Alexa Fluor 750 version of antibody used (NBP1-92687AF750). Image from verified customer review.



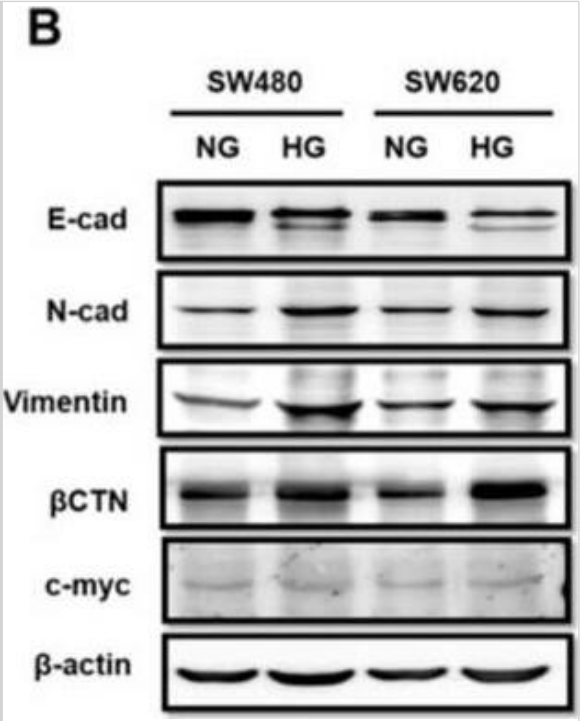
Immunohistochemistry: Vimentin Antibody (2D1) [NBP1-92687] - Mouse cortex microslice section (from postnatal day 3) was immunostained with (1:500 dil.). This image was submitted via customer Review.



Simple Western: Vimentin Antibody (2D1) [NBP1-92687] - Simple Western lane view shows a specific band for Vimentin in 0.5 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.



Western Blot: Vimentin Antibody (2D1) [NBP1-92687] - High glucose (HG) concentrations induced epithelial-to-mesenchymal transition protein expression & enhanced migration activity in colorectal cancer (CRC) cells. SW480 (low metastatic potential) & SW620 (high metastatic potential) cells were cultured in different concentrations of glucose (normal: NG; HG; & osmotic control: NG + l-glucose). (A) Morphological change occurred from epithelial to mesenchymal type in the HG-concentration group. (B) HG concentration caused downregulation of E-cadherin & upregulation of N-cadherin, βCTN, & vimentin, but c-myc was unchanged, as detected using Western blotting. β-actin was evaluated as an internal control. (C,D) Wound healing assay showed that HG concentration promoted cell motility in SW480 & SW620 CRC cells after 48 & 72 h of culture, compared with the NG & NG + l-glucose groups. (E) In a Transwell migration assay, 3.5 × 105 SW480 & SW620 CRC cells were plated onto a 24-well plate & cultured in NG & HG-concentration medium for 96 h. HG concentration promoted cell motility in SW480 & SW620 cells. NG + l-glucose cells were evaluated as ostomic controls. (F) These data show that HG concentration caused upregulation of p-IGF1R in CRC. In addition, HG concentration promoted IGF1R downstream signaling, including p-Src & p-ERK; these proteins were increased when CRC cells were cultured in HG-concentration medium. Levels of β-actin were evaluated as loading controls. Statistically significant differences between the two groups were judged using Student's t-tests; * $p < 0.05$, ** $p < 0.005$, *** $p < 0.001$; n.s. = nonsignificant. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30965609), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Chou CW, Hung CN, Chiu CH et al. Phagocytosis-initiated tumor hybrid cells acquire a c-Myc-mediated quasi-polarization state for immunoevasion and distant dissemination Nature communications 2023-10-17 [PMID: 37848444]

Manhas A, Tripathi D, Jagavelu K Involvement of HIF1?/Reg protein in the regulation of HMGB3 in myocardial infarction Vascular pharmacology 2023-07-17 [PMID: 37467910] (ICC/IF, Rat)

Monleón-Guinot I, Milian L, Martínez-Vallejo P et al. Morphological Characterization of Human Lung Cancer Organoids Cultured in Type I Collagen Hydrogels: A Histological Approach International journal of molecular sciences 2023-06-14 [PMID: 37373279] (ICC/IF, Human)

Details:
1:500 dilution

Wang W, Lin Y, Zhang F et al. Single cell transcriptomic analysis of human amnion identifies cell-specific signatures associated with membrane rupture and parturition Cell Biosci. 2022-05-18 [PMID: 35585644] (ICC/IF, Human)

Duan X, Weng H, Shen G et al. Preliminary study on the expression of UHRF1 in early oral squamous cell carcinoma and its clinical prognostic value Research Square 2023-02-03 (IHC-P, Human)

Hamdan F, YlOsmAki E, Chiaro J et al. Novel oncolytic adenovirus expressing enhanced cross-hybrid IgGA Fc PD-L1 inhibitor activates multiple immune effector populations leading to enhanced tumor killing in vitro, in vivo and with patient-derived tumor organoids J Immunother Cancer 2021-11-01 [PMID: 34362830] (ICC/IF, Human)

Chandramohan Y, Jeganathan K, Sivanesan S et al. Assessment of human ovarian follicular fluid derived mesenchymal stem cells in chitosan/PCL/Zn scaffold for bone tissue regeneration Life Sci 2020-10-06 [PMID: 33031825] (WB, Human)

Park S, Song CS, Lin CL et al. Inhibitory Interplay of SULT2B1b Sulfotransferase with AKR1C3 Aldo-keto Reductase in Prostate Cancer Endocrinology 2020-01-02 [PMID: 31894239]

Chen, YC;Ou, MC;Fang, CW;Lee, TH;Tzeng, SL; High Glucose Concentrations Negatively Regulate the IGF1R/Src/ERK Axis through the MicroRNA-9 in Colorectal Cancer Cells 2019-04-08 [PMID: 30965609] (WB, Human)

Scimeca M, Urbano N, Bonfiglio R et al. Breast osteoblast-like cells: a new biomarker for the management of breast cancer. Br. J. Cancer. 2018-10-17 [PMID: 30327566] (IHC-P, Human)

Qi M, Zhou Y, Liu J et al. AngII induces HepG2 cells to activate epithelial-mesenchymal transition. Exp Ther Med 2018-10-01 [PMID: 30233697] (IF/IHC, Human)

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Products Related to NBP1-92687

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NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-96778	Mouse IgG2a Isotype Control (M2A)
NBP1-92687AF647	Vimentin Antibody (2D1) [Alexa Fluor® 647]

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