Product Datasheet

CD31/PECAM-1 Antibody - BSA Free
NBP1-71663

Unit Size: 0.1 ml

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

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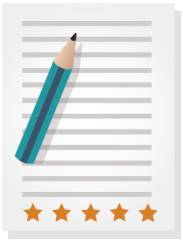
Updated 4/13/2025 v.20.1



NBP1-71663

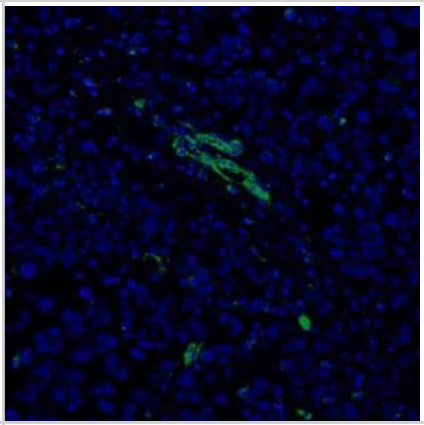
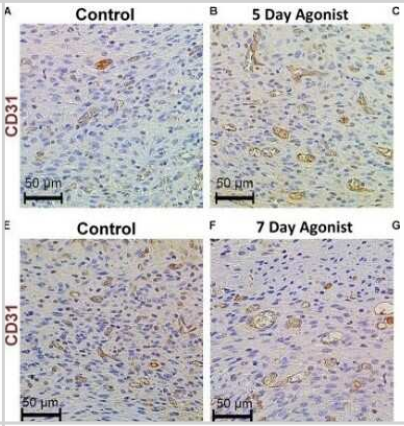
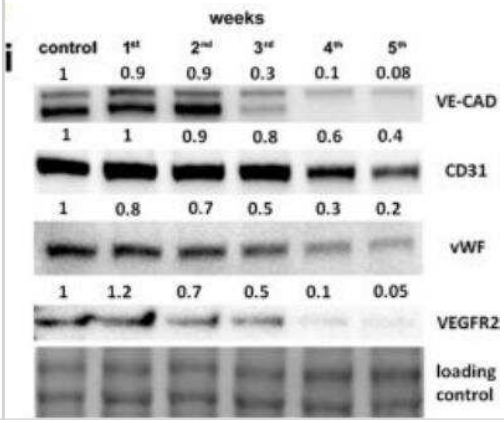
CD31/PECAM-1 Antibody - BSA Free

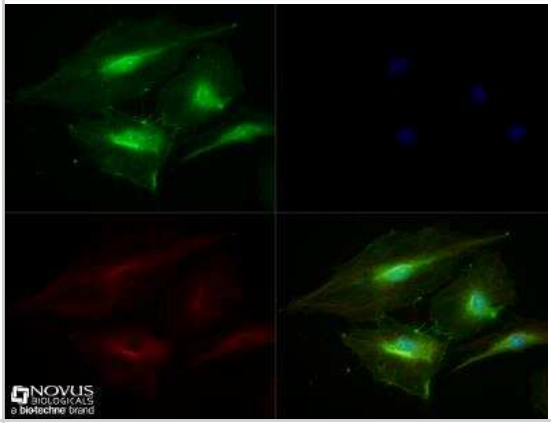
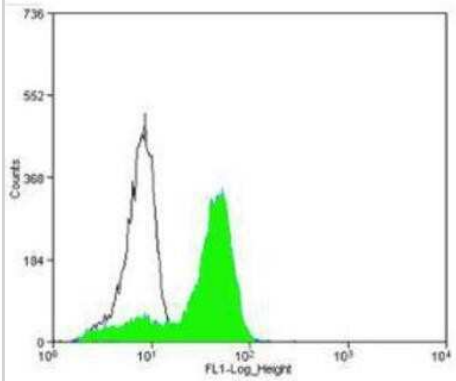
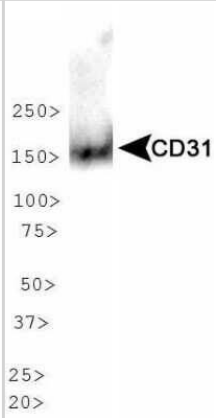
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS, 30% Glycerol
Target Molecular Weight	82.5 kDa

Product Description	
Host	Rabbit
Gene ID	5175
Gene Symbol	PECAM1
Species	Human, Mouse
Immunogen	This CD31/PECAM-1 Antibody was developed against a genomic peptide made to an internal region of human CD31/PECAM1 (within residues 100-300) [Swiss-Prot P16284].
Notes	Manufactured by Genomic Antibody Technology™. GAT FAQs

Product Application Details	
Applications	Western Blot, Simple Western, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:10000, Simple Western 1:1000, Flow Cytometry 1:1000, Immunohistochemistry 1:50, Immunocytochemistry/ Immunofluorescence 1:10-1:500, Immunohistochemistry-Paraffin 1:50, Immunohistochemistry-Frozen reported in scientific literature (PMID 35879332)
Application Notes	In Western Blot a band is seen ~150 kDa. Prior to immunostaining paraffin tissues, antigen retrieval with sodium citrate buffer (pH 6.0) is recommended. Customer feedback has been negative on cryosections. 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 HUVEC lysate 0.5 mg/mL, separated by Size, antibody dilution of 1:1000, apparent MW was 166 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue.

Images

Immunocytochemistry/Immunofluorescence: CD31/PECAM-1 Antibody [NBP1-71663] - Staining of mouse glioma tissue using CD31/PECAM-1 Antibody (NBP1-71663) at a dilution of 1:2500. Image provided by Dr. Eric Woolf of Dignity Health.	
Simple Western: CD31/PECAM-1 Antibody [NBP1-71663] - Image shows a specific band for CD31/PECAM 1 in 0.5 mg/mL of HUVEC lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.	
Immunohistochemistry: CD31/PECAM-1 Antibody [NBP1-71663] - 5-HTR1A agonist enhances neovascularization during skin wound healing (excisional punch biopsy model). CD31/PECAM-1 endothelial cell immunohistochemical staining at day 5 (A,B) and day 7 (E,F), image scale bars represented at 50 um. Results were presented as mean +/- SEM (n = 5 images per wound). Two-way ANOVA was performed and significance levels were set at *P < 0.05, **P < 0.01. Image collected and cropped by CiteAb from the following publication (https://www.frontiersin.org/article/10.3389/fphar.2018.01406/full), licensed under a CC-BY license.	
Western Blot: CD31/PECAM-1 Antibody [NBP1-71663] - Snail and EndMT-related protein expression in lungs in orthotopic murine 4T1 breast cancer model. ag Expression of Snail (see Methods). Levels of CD31/PECAM-1 determined by western blot analysis in pooled (n = 6) samples in control and 4T1 breast cancer-bearing mice from the 1st to 5th week after 4T1 cancer cell inoculation (see Methods). Results presented as fold change vs control sample corresponding to healthy mice. Total protein after transfer was used as loading control Image collected and cropped by Citeab from the following publication (Nitric oxide deficiency and endothelial-mesenchymal transition of pulmonary endothelium in the progression of 4T1 metastatic breast cancer in mice. Breast Cancer Res (2018) licensed under a CC-BY license	

Immunocytochemistry/Immunofluorescence: CD31/PECAM-1 Antibody [NBP1-71663] - HUVEC cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.5% Triton X-100. The cells were incubated with CD31/PECAM-1 Antibody at 5 ug/mL overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:500 dilution. Alpha tubulin (DM1A) NB100-690 was used as a co-stain at a 1:1000 dilution and detected with an anti-mouse Dylight 550 (Red) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.	
Flow Cytometry: CD31/PECAM-1 Antibody [NBP1-71663] - CD31/PECAM-1 Antibody was tested in WeHi cells with Dylight 488 (green) alongside a matched isotype control (black).	
Western Blot: CD31/PECAM-1 Antibody [NBP1-71663] - Detection of CD31 in HUVEC cell lysates.	

Publications

Smeda M, Jasztal A, Maleki EH et al. Endothelial-mesenchymal transition induced by metastatic 4T1 breast cancer cells in pulmonary endothelium in aged mice Frontiers in Molecular Biosciences 2022-11-24 [PMID: 36504711] (In vivo assay)

Marycz K, Bourebaba N, Serwotka-Suszczak A et al. In Vitro Generated Equine Hepatic-Like Progenitor Cells as a Novel Potent Cell Pool for Equine Metabolic Syndrome (EMS) Treatment Stem Cell Reviews and Reports 2023-05-01 [PMID: 36658383] (Flow Cytometry, Western Blot)

Feng D, Zhou J, Liu H et al. Astrocytic NDRG2-PPM1A interaction exacerbates blood-brain barrier disruption after subarachnoid hemorrhage Science advances 2022-09-30 [PMID: 36179025] (ICC/IF, Mouse)

Details:
Dilution used in ICC/IF 1:100

Bae E, Huang P, Muller-Greven G et al. Integrin alpha 3 beta 1 promotes vessel formation of glioblastoma-associated endothelial cells through calcium-mediated macropinocytosis and lysosomal exocytosis Nature communications 2022-07-25 [PMID: 35879332] (ICC/IF, IHC-P, IHC-Fr, Human)

Zhang L, Soni S, Hekimoglu E et al. Impaired Autophagic Activity Contributes to the Pathogenesis of Bronchopulmonary Dysplasia: Evidence from Murine and Baboon Models Am. J. Respir. Cell Mol. Biol. 2020-05-06 [PMID: 32374619] (WB)

Zhu NN, Lu MJ, Chen YQ et al. Autologous blood transfusion stimulates wound healing in diabetic mice through activation of the HIF-1 alpha pathway by improving the blood preservation solution FASEB J. 2020-03-23 [PMID: 32202355] (IHC-P, IF/IHC)

Tsai HF, Toda-Peters K, Shen AQ. Glioblastoma adhesion in a quick-fit hybrid microdevice Biomed Microdevices 2019-03-21 [PMID: 30900024] (ICC/IF, Human)

Sadiq A, Menchetti I, Shah A et al. 5-HT1A Receptor Function Makes Wound Healing a Happier Process Front. Pharmacol. 2018-12-11 [PMID: 30618734] (IHC-P, Mouse)

Smeda M, Kieronska A, et al. Nitric oxide deficiency and endothelial-mesenchymal transition of pulmonary endothelium in the progression of 4T1 metastatic breast cancer in mice. Breast Cancer Res 2018-08-03 [PMID: 30075800] (WB, Mouse)

Smeda M, Kieronska A, et al. Dual antiplatelet therapy with clopidogrel and aspirin increases mortality in 4T1 metastatic breast cancer-bearing mice by inducing vascular mimicry in primary tumour. Oncotarget 2018-04-03 [PMID: 29707148] (WB, Mouse)

Ma Y, Huang YX, Chen YY. miRNA-34a-5p downregulation of VEGFA in endometrial stem cells contributes to the pathogenesis of endometriosis. Mol Med Rep. 2017-09-29 [PMID: 28990049] (Human)

Details:
This citation used the FITC form of this antibody.

Abraham V, Parambath A, Joe DS, DeLisser HM. Influence of PECAM-1 ligand interactions on PECAM-1-dependent cell motility and filopodia extension. Physiol Rep. 2016-11-01 [PMID: 27895229] (Human, Mouse)

Details:
This citation used the DyLight 650 version of this antibody.

More publications at http://www.novusbio.com/NBP1-71663

Procedures

Western Blot protocolspecific for CD31 antibody (NBP1-71663)

Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 40 ug of total protein per lane.
2. Transfer proteins to membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain according to standard Ponceau S procedure (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot.
5. Block the membrane using standard blocking buffer for at least 1 hour.
6. Wash the membrane in wash buffer three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate 1 hour at room temperature.
8. Wash the membrane in wash buffer three times for 10 minutes each.
9. Apply the diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturers instructions.

*Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%.

Immunohistochemistry-Paraffin protocol for CD31/PECAM-1 Antibody (NBP1-71663)

Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes.

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in wash buffer for 5 minutes.
3. Block each section with 100-400 ul blocking solution for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul biotinylated diluted secondary antibody. Incubate 30 minutes at room temperature.
7. Remove secondary antibody solution and wash sections three times with wash buffer for 5 minutes each.
8. Add 100-400 ul Streptavidin-HRP reagent to each section and incubate for 30 minutes at room temperature.
9. Wash sections three times in wash buffer for 5 minutes each.
10. Add 100-400 ul DAB substrate to each section and monitor staining closely.
11. As soon as the sections develop, immerse slides in deionized water.
12. Counterstain sections in hematoxylin.
13. Wash sections in deionized water two times for 5 minutes each.
14. Dehydrate sections.
15. Mount coverslips.

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Products Related to NBP1-71663

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NBP2-24891	Rabbit IgG Isotype Control
NBP1-71663H	CD31/PECAM-1 Antibody [HRP]

Limitations
This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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