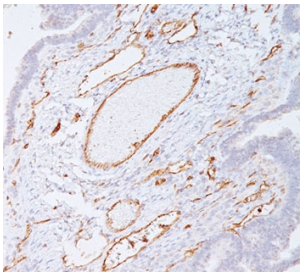
PECAM-1 Antibody C31.7 / CD31 Monoclonal Antibody [clone C31.7] (V2219)

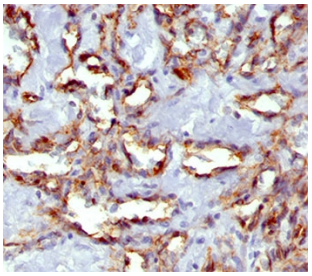
Catalog No.	Formulation	Size
V2219-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2219-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2219SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2219IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

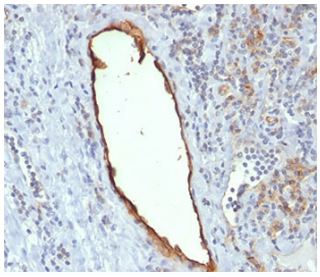
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	C31.7
Purity	Protein G affinity chromatography
Gene ID	5175
Localization	Cell surface and cytoplasmic
Applications	Flow cytometry: 1-2ug/10^6 cells Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This PECAM-1 Antibody C31.7 is available for research use only.



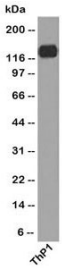
PECAM-1 Antibody C31.7 staining of colon carcinoma vasculature by IHC. Immunohistochemistry of human colon carcinoma sections using PECAM-1 Antibody C31.7. Strong brown membranous staining delineates endothelial cells surrounding vascular spaces within the tumor tissue, while surrounding epithelial and stromal regions show substantially less signal. The distinct vascular pattern is consistent with the characteristic localization of CD31 on endothelial cell membranes and demonstrates detection with this CD31 Monoclonal Antibody.



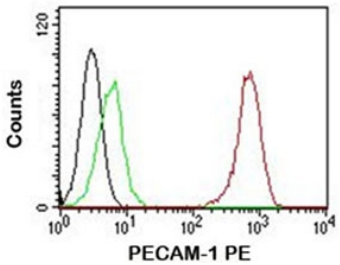
PECAM-1 Antibody C31.7 staining of angiosarcoma by IHC. Immunohistochemistry of human angiosarcoma sections using PECAM-1 Antibody C31.7. Strong brown staining highlights numerous irregular vascular channels and endothelial tumor cells throughout the section. The extensive membrane-associated staining is consistent with the endothelial differentiation characteristic of angiosarcoma and the established expression pattern of CD31/PECAM1. This image demonstrates prominent vascular labeling with the CD31 Monoclonal Antibody.



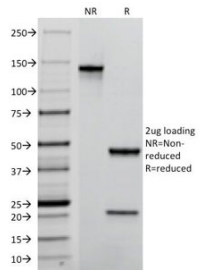
PECAM-1 Antibody C31.7 staining of tonsil endothelium by IHC. Immunohistochemistry of human tonsil sections using PECAM-1 Antibody C31.7. Strong brown staining outlines the endothelial lining of a prominent blood vessel, producing clear membrane-associated signal against the surrounding lymphoid tissue. Additional cellular staining is visible in the adjacent tissue. The vascular pattern is consistent with PECAM1 expression and demonstrates endothelial detection with this CD31 Monoclonal Antibody.



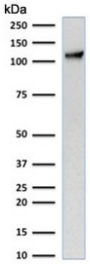
PECAM-1 Antibody C31.7 detection in THP-1 cells by WB. Western blot testing of human THP-1 cell lysate with PECAM-1 Antibody C31.7. A strong predominant band is detected at approximately 120-130 kDa, within the expected range for mature CD31/PECAM1. Although the PECAM1 polypeptide has a lower calculated molecular weight, extensive N-linked glycosylation produces the substantially higher apparent molecular weight characteristic of the mature cell-surface protein. This result demonstrates recognition by the CD31 Monoclonal Antibody in human cell lysate.



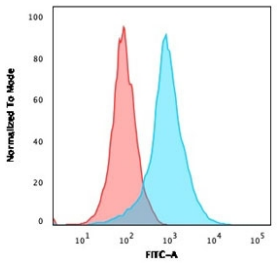
PECAM-1 Antibody C31.7 detection of Jurkat cells by FACS. Flow cytometry analysis of human Jurkat cells using PE-conjugated PECAM-1 Antibody C31.7. Cells alone are shown in black, the isotype control in green and antibody-labeled cells in red. The pronounced rightward shift of the red population relative to both controls demonstrates clear detection of cell-surface PECAM1. This result supports specific recognition of CD31-positive cells by clone C31.7.



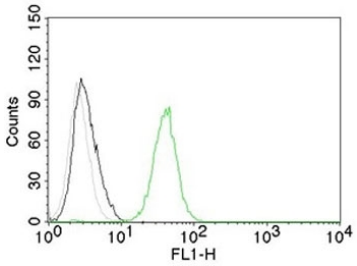
PECAM-1 Antibody C31.7 purity assessment by SDS-PAGE. SDS-PAGE analysis of purified, BSA-free PECAM-1 Antibody C31.7 under non-reducing and reducing conditions with 2 ug antibody loaded per lane. The non-reduced antibody migrates predominantly near 150 kDa, consistent with intact IgG. Under reducing conditions, prominent bands are visible near approximately 50 kDa and 25 kDa, corresponding to antibody heavy and light chains and confirming the expected composition of this CD31 Monoclonal Antibody.



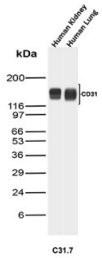
PECAM-1 Antibody C31.7 detection in Jurkat cells by WB. Western blot testing of human Jurkat cell lysate with PECAM-1 Antibody C31.7. A predominant immunoreactive band is visible at approximately 110-120 kDa, within the broad expected migration range of glycosylated CD31/PECAM1. Post-translational glycosylation accounts for the higher apparent molecular weight of mature PECAM1 relative to its calculated polypeptide mass. The relatively discrete signal demonstrates recognition by this CD31 Monoclonal Antibody in human cell lysate.



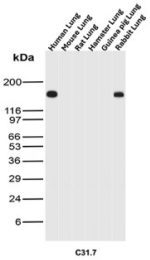
PECAM-1 Antibody C31.7 detection of fixed Jurkat cells by FACS. Flow cytometry analysis of PFA-fixed human Jurkat cells using PECAM-1 Antibody C31.7. The isotype control population is shown in red and antibody-labeled cells in blue. A clear rightward shift of the blue population demonstrates detection of PECAM1 in the fixed-cell preparation. The separation between antibody and control populations supports recognition of CD31 by clone C31.7 under these experimental conditions.



PECAM-1 Antibody C31.7 detection of Jurkat cells by FACS. Flow cytometry analysis of human Jurkat cells using PECAM-1 Antibody C31.7. Cells alone are shown in black, the isotype control in gray and antibody-labeled cells in green. The green population shows a substantial rightward fluorescence shift relative to both controls, demonstrating clear detection of PECAM1. This independent flow cytometry experiment further supports cell-surface recognition by the CD31 Monoclonal Antibody.



PECAM-1 Antibody C31.7 detection in human kidney and lung by WB. Western blot testing of human tissue lysates with PECAM-1 Antibody C31.7. Lane 1: human kidney; lane 2: human lung. Strong bands are detected at approximately 130-140 kDa in both tissues, consistent with the migration of mature glycosylated PECAM1/CD31. The similar molecular weight across the two tissues supports recognition of the expected target protein by this CD31 Monoclonal Antibody.



PECAM-1 Antibody C31.7 multi-species lung tissue testing by WB. Western blot testing of lung tissue lysates with PECAM-1 Antibody C31.7. Lane 1: human; lane 2: mouse; lane 3: rat; lane 4: hamster; lane 5: guinea pig; lane 6: rabbit. Strong bands at approximately 130-140 kDa are visible in human and rabbit lung, while the intervening species show little or no corresponding signal. The observed molecular weight is consistent with mature glycosylated PECAM1 and demonstrates the species-dependent recognition profile of clone C31.7.

Description

PECAM-1 Antibody C31.7 / CD31 Monoclonal Antibody recognizes platelet endothelial cell adhesion molecule 1, a transmembrane glycoprotein encoded by the PECAM1 gene. Also known as CD31, PECAM-1 is a member of the immunoglobulin superfamily characterized by six extracellular immunoglobulin-like domains, a transmembrane region and a cytoplasmic tail containing regulatory tyrosine residues. The protein is strongly associated with vascular endothelial cells and is also expressed by platelets, monocytes, neutrophils and subsets of lymphocytes. Its characteristic distribution has established CD31 as an important marker in vascular biology, angiogenesis and endothelial cell research.

PECAM-1 participates in homophilic interactions between neighboring endothelial cells and contributes to the organization and maintenance of endothelial junctions. Its cytoplasmic domain contains immunoreceptor tyrosine-based inhibitory motifs that can recruit signaling proteins following phosphorylation. Through these adhesive and signaling functions, PECAM1 contributes to vascular barrier integrity, mechanotransduction and cellular responses to inflammatory stimuli. The PECAM-1 Antibody C31.7 provides a clone-specific reagent for investigating this widely studied endothelial adhesion molecule.

CD31 also plays an important role in leukocyte transendothelial migration. Interactions involving PECAM-1 at endothelial junctions facilitate the movement of leukocytes across the vascular wall during inflammatory responses. In addition, the

protein contributes to endothelial cell migration, vascular remodeling and angiogenesis. These functions connect PECAM1 biology with research involving inflammation, cardiovascular biology, tumor vascularization and tissue repair. A CD31 Monoclonal Antibody can therefore support investigation of both vascular architecture and the molecular mechanisms governing endothelial and immune cell interactions.

Clone C31.7 has been used in multiple published studies, providing an established literature history for this monoclonal antibody. This published use complements the broader biological importance of PECAM1 as an endothelial marker and regulator of cell adhesion. NSJ Bioreagents provides clone C31.7 for researchers investigating CD31 expression, endothelial biology and vascular processes. A PECAM-1 Antibody C31.7 provides a clone-specific tool for studying platelet endothelial cell adhesion molecule 1 and its roles in vascular and immune biology.

For a Protein Microarray Validated monoclonal antibody with CD31 as the primary designation, see our CD31 Antibody PECAM1/3527 / PECAM-1 Monoclonal Antibody.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the PECAM-1 Antibody C31.7 to be titered up or down for optimal performance.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 1mM EDTA, pH 7.5-8.5, for 10-20 min followed by cooling at RT for 20 minutes.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Human recombinant PECAM-1 / CD31 protein was used as the immunogen for this PECAM-1 Antibody C31.7.

Storage

Store the PECAM-1 Antibody C31.7 at 2-8oC.

Alternate Names

CD31 antibody, PECAM1 antibody, Platelet Endothelial Cell Adhesion Molecule 1 antibody, PECA1 antibody, EndoCAM antibody

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