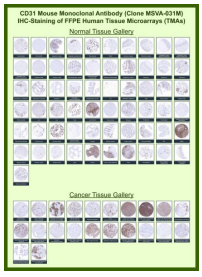
CD31 Antibody for IHC / PECAM1 Immunohistochemistry Antibody [clone MSVA-031M] (V5967)

Catalog No.	Formulation	Size
V5967-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5967-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant | MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	MSVA-031M
UniProt	P16284
Localization	Cell junction, Cell membrane, Membrane raft
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This CD31 Antibody for IHC / PECAM1 Immunohistochemistry Antibody is available for research use only.



CD31 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Platelet endothelial cell adhesion molecule 1 PECAM1, also known as CD31, in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant mouse monoclonal CD31 antibody clone MSVA-031M. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates distinct membranous localization in vascular endothelial cells across multiple tissues, clearly outlining blood vessel linings and capillary networks, while non-endothelial epithelial and stromal compartments show minimal to absent staining. Within tumor tissue microarrays, CD31 highlights tumor-associated vasculature, revealing variable microvessel density and complex vascular architecture within tumor stroma. Evaluation across large TMA panels enables direct comparison of PECAM1 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported PECAM1 expression profiles in publicly available datasets including the Human Protein Atlas, supporting its use for endothelial visualization and vascular analysis.

Description

Platelet Endothelial Cell Adhesion Molecule 1 (PECAM1), commonly known as CD31, is a transmembrane glycoprotein highly expressed on vascular endothelial cells, where it plays central roles in maintaining vascular integrity, mediating leukocyte transmigration, and supporting endothelial cell-cell adhesion. CD31 Antibody for IHC is specifically optimized for detection of endothelial structures in formalin-fixed, paraffin-embedded tissues, enabling high-contrast visualization of blood vessels, capillary networks, and microvascular architecture in histological sections.

CD31 antibody, also referred to as PECAM1 antibody, is widely used in immunohistochemistry as a definitive endothelial marker with characteristic membranous staining outlining vascular structures. In IHC staining, CD31 produces distinct linear and branching HRP-DAB brown signal along endothelial cell borders, clearly delineating vessel lumens and capillary networks. This staining pattern enables precise identification of microvessels within complex tissue environments, while most epithelial and non-vascular stromal cells remain negative, supporting its specificity for endothelial lineage in tissue-based analysis.

Clone MSVA-031M is a recombinant mouse monoclonal antibody developed for high-affinity and reproducible detection of CD31 in FFPE samples. This clone produces strong, well-defined membranous staining with low non-specific background under standard antigen retrieval conditions, allowing accurate visualization of vascular structures even in densely cellular or tumor-rich tissues. In Tissue Microarray (TMA) analysis, CD31 Antibody for IHC demonstrates highly consistent staining across large panels of normal and cancer tissues, enabling side-by-side comparison of vascular density and endothelial distribution across hundreds of tissue cores within a single experimental framework.

In normal tissue microarrays, CD31 expression is prominently observed in endothelial cells lining blood vessels across diverse organ systems, including liver sinusoids, renal glomeruli and vasculature, pulmonary capillaries, and gastrointestinal microvasculature. The resulting staining provides clear visualization of vascular organization and tissue perfusion patterns. Non-endothelial compartments, including epithelial and most stromal cells, show minimal staining, reinforcing the specificity of CD31 as a vascular endothelial marker in immunohistochemistry.

In cancer tissue microarrays, CD31 Antibody for IHC robustly highlights tumor-associated vasculature, revealing dense and irregular networks of endothelial-lined vessels within tumor stroma. Increased microvessel density is frequently observed in malignant tissues, reflecting active angiogenesis associated with tumor growth and progression. This staining pattern is particularly valuable for evaluating tumor vascularization, identifying endothelial cells within tumor microenvironments, and supporting quantitative or semi-quantitative assessment of angiogenic activity in TMA-based studies.

The robust and reproducible performance of clone MSVA-031M in TMA-based immunohistochemistry supports its application in cancer research, angiogenesis studies, and vascular biology. CD31 Antibody for IHC enables reliable detection of endothelial cells in FFPE tissues and is well suited for high-throughput tissue microarray analysis, comparative pathology, and evaluation of microvascular patterns across normal and diseased tissues.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the CD31 Antibody for IHC / PECAM1 Immunohistochemistry Antibody should be determined by the researcher.

2. This CD31 / PECAM-1 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to

the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 625-738) of human CD31 protein (exact sequence is proprietary) was used as the immunogen for the CD31 / PECAM-1 antibody.

Storage

Platelet Endothelial Cell Adhesion Molecule 1/PECAM-1 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

CD31 IHC antibody, PECAM1 immunohistochemistry antibody, Platelet endothelial cell adhesion molecule antibody, Endothelial marker antibody, CD31 TMA antibody