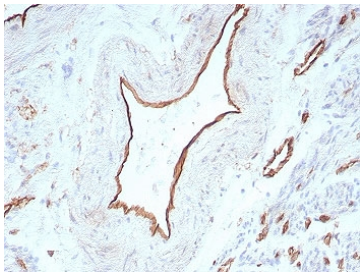
PECAM-1 Antibody / CD31 [clone C31/8831R] (V4545)

Catalog No.	Formulation	Size
V4545-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4545-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4545SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

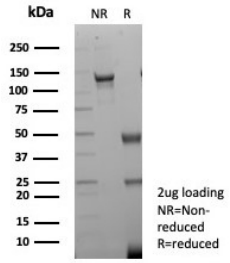
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	C31/8831R
Purity	Protein A/G affinity
UniProt	P16284
Localization	Cell Surface, Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This PECAM-1 antibody is available for research use only.



Immunohistochemistry analysis of PECAM-1 / CD31 antibody in human uterus. FFPE human uterus tissue was stained with PECAM-1 / CD31 antibody (clone C31/8831R). HRP-DAB brown chromogenic signal is observed predominantly along the endothelial lining of blood vessels within the stromal compartment, with membranous staining outlining vascular structures. Vascular endothelial cells show strong brown staining, while surrounding smooth muscle cells and stromal cells display minimal background signal. Nuclei are counterstained blue. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 minutes followed by cooling prior to antibody incubation.



SDS-PAGE analysis of purified, BSA-free PECAM-1 antibody (clone C31/8831R) as confirmation of integrity and purity.

Description

PECAM-1 antibody, also known as Platelet endothelial cell adhesion molecule 1 antibody, recognizes an immunoglobulin superfamily cell surface adhesion receptor commonly referred to as CD31. Platelet endothelial cell adhesion molecule 1 is encoded by the PECAM1 gene on chromosome 17q23.3 and is primarily localized to the plasma membrane at endothelial cell-cell junctions, with additional expression on platelets, monocytes, neutrophils, and select lymphocyte subsets. In vascular biology, PECAM-1 is a hallmark endothelial marker because it concentrates at intercellular borders where it supports barrier integrity and coordinated leukocyte trafficking.

Functionally, PECAM-1 participates in homophilic adhesion between adjacent endothelial cells and in heterophilic interactions that help guide leukocytes during transendothelial migration. It contributes to key processes including leukocyte extravasation, vascular permeability control, angiogenic sprouting, and platelet-endothelial crosstalk. CD31 antibody, also referred to as PECAM-1 antibody and Platelet endothelial cell adhesion molecule 1 antibody in the literature, is commonly used to study endothelial activation, inflammatory recruitment, and tumor-associated neovascularization where endothelial density and junctional remodeling are central readouts.

Structurally, PECAM-1 contains six extracellular immunoglobulin-like domains, a single transmembrane region, and a cytoplasmic tail with signaling motifs that recruit phosphatases and adaptor proteins in response to mechanical or inflammatory cues. These features place PECAM-1 within junctional signaling networks that intersect with pathways regulating shear stress responses, integrin crosstalk, and cytoskeletal organization. In tissues, PECAM-1 often co-localizes with other junctional components at vascular borders, supporting coordinated endothelial adhesion and signaling during immune cell passage.

In disease contexts, altered PECAM1 expression or localization is associated with vascular inflammation, atherosclerotic lesion biology, ischemia-reperfusion injury, and cancer progression through effects on endothelial stability and angiogenesis. Clone C31/8831R is a recombinant monoclonal antibody designed to recognize PECAM-1 and is suitable for detecting CD31 expression in relevant research applications.

Application Notes

Optimal dilution of the PECAM-1 antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 538-738) from the human protein was used as the immunogen for the PECAM-1 antibody.

Storage

Aliquot the PECAM-1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.