

# PRODUCT INFORMATION



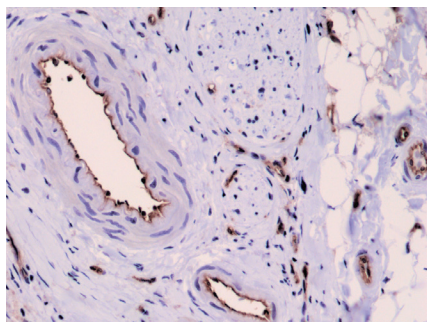
## CD31 Rabbit Monoclonal Antibody (Clone RM247)

Item No. 32201

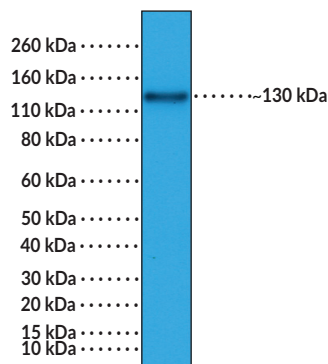
### Overview and Properties

<b>Contents:</b>	This vial contains 100 $\mu$ l of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	Cluster of Differentiation 31, EndoCAM, GPIIA, PECA1, Platelet Endothelial Cell Adhesion Molecule (PECAM-1)
<b>Immunogen:</b>	Peptide from the cytoplasmic domain of human CD31
<b>Cross Reactivity:</b>	(+) CD31
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	$\geq$ 1 year
<b>Storage Buffer:</b>	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Clone:</b>	RM247
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:1,000-1:2,500 and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast cancer tissue sections using a 1:2,500 dilution of CD31 Rabbit Monoclonal Antibody (Clone RM247).



WB of Jurkat cell lysate. Jurkat cell lysate was subjected to WB using CD31 Rabbit Monoclonal Antibody (Clone RM247) at a dilution of 1:1,000, which showed CD31 (~130 kDa) expression in Jurkat cells.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
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## Description

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CD31, also known as platelet endothelial cell adhesion molecule (PECAM-1), is a vascular cell adhesion molecule and member of the immunoglobulin (Ig) superfamily of glycoproteins.<sup>1</sup> It is a transmembrane glycoprotein that contains a large extracellular domain with Ig homology domains and glycosaminoglycan binding sites, a membrane-spanning region, and a cytoplasmic domain containing multiple phosphorylation sites.<sup>1,2</sup> CD31 is expressed on a variety of cells, including endothelial cells, monocytes, neutrophils, and platelets, among others, and is a surface marker for embryonic stem cells (ESCs).<sup>1,3</sup> It forms homophilic interactions, which allow it to aggregate at endothelial cell-cell junctions where it regulates vascular permeability.<sup>2</sup> Tyrosine phosphorylation at sites on the CD31 cytoplasmic domain, including at immunoreceptor tyrosine-based inhibitory motifs (ITIMs), recruits cytoplasmic proteins, leading to downstream signaling with either inhibitory or activating effects.<sup>4</sup> CD31 also has roles in integrin-mediated adhesion, leukocyte recruitment, angiogenesis, and inflammation.<sup>2,5,6</sup> High levels of CD31<sup>+</sup> circulating cells positively correlate with C-reactive protein (CRP) levels and the Framingham risk score for hard coronary artery disease, while low levels on circulating cells negatively correlate with the Framingham risk score.<sup>7</sup> A mutation in *PECAM1*, the gene encoding CD31, is associated with atherosclerotic cerebral infarction.<sup>8</sup> Cayman's CD31 Rabbit Monoclonal Antibody (Clone RM247) can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes CD31 at approximately 130 kDa from human samples.

## References

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