Alexa Fluor® 647 anti-CD31 (PECAM-1) Antibody

Catalog# / Size	623553 / 25 µg 623554 / 100 µg
Clone	JC70
Regulatory Status	RUO
Other Names	Platelet and endothelial cell adhesion molecule (PECAM-1), EndoCAM
Isotype	Mouse IgG1, κ
Description	CD31, widely known as “platelet and endothelial cell adhesion molecule” (PECAM), is a crucial transmembrane glycoprotein primarily found on the surface of endothelial cells and platelets. The quintessential endothelial cell marker, CD31 is vital for the maintenance of vascular integrity. It plays a pivotal role in cell-cell adhesion, promoting interactions between neighboring endothelial cells, and facilitates leukocyte diapedesis during the inflammatory response. CD31 also mediates platelet-endothelial interactions, contributing to platelet aggregation and thrombus formation at sites of vascular injury. Additionally, this multifunctional molecule is involved in signal transduction pathways that govern cell migration, proliferation, and survival, making it a key player in immune response regulation and angiogenesis.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Cell membrane preparation from the spleen of a patient with hairy cell leukemia
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze**.
Application	IHC-P - Quality tested ICC, ICFC, FC - Verified
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 1 - 5 µg/mL is suggested. For immunocytochemistry, a concentration range of 1.25 - 2.5 µg/mL is recommended. For flow cytometric staining, the suggested use of this reagent is ≤ 0.25 µg per million cells in 100 µL volume. For intracellular flow cytometric staining, the suggested use of this reagent is ≤ 0.25 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Additional Product Notes	For ICC we recommend fixation/permeabilization with 100% ice-cold methanol, or 4% PFA followed by 100% ice-cold methanol. Fixation/permeabilization with 4% PFA followed by 0.5% Triton-X results in a significantly dimmer signal. For IHC-P, we recommend antigen retrieval using Sodium Citrate, pH 6.0 (Cat. No. 420901). Product does not work with Tris-EDTA antigen retrieval.
RRID	AB_3675165 (BioLegend Cat. No. 623553) AB_3675165 (BioLegend Cat. No. 623554)

Antigen Details

Structure	CD31 is a 738 amino acid protein with a predicted molecular weight of 82.5 kD.
Distribution	Endothelial cells, Platelets, Granulocytes, Lymphocytes, Monocytes, Neutrophils, Cell surface
Function	Cell adhesion
Interaction	BDKRB2 and GNAQ
Ligand/Receptor	Forms homophillic interactions, also CD38, CD177, αV/β3 integrin
Cell Type	B cells, Dendritic cells, Endothelial cells, Granulocytes, Macrophages, Monocytes, Neutrophils, Platelets, T cells
Biology Area	Angiogenesis, Cell Adhesion, Cell Biology, Immunology, Neuroinflammation, Neuroscience
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	1. Barclay AN, *et al.* 1997. *The Leukocyte Antigen FactsBook Academic Press*. 2. DeLisser HM, *et al.* 1994. *Immunol. Today.* 15:490-5. 3. Newman PJ, *et al.* 1990. Science 247:1219-22. 4. Lertkiatmongkol P, *et al.* 2016. *Curr Opin Hematol*. 23:253-9. 5. Yeh JC, *et al.* 2008. *Biochemistry*. 47:9029-39.
Gene ID	5175

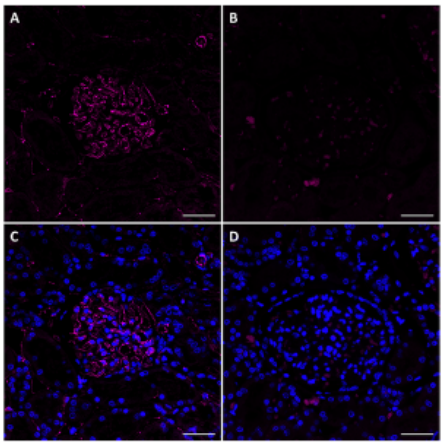
Related Protocols

- Cell Surface Flow Cytometry Staining Protocol
- Immunocytochemistry Staining Protocol
- Intracellular Flow Cytometry Staining Protocol
- Immunohistochemistry Protocol for Paraffin-Embedded Sections

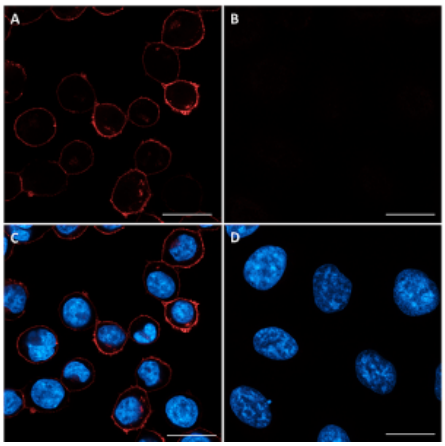
Other Formats

Purified anti-CD31 (PECAM-1), Alexa Fluor® 647 anti-CD31 (PECAM-1) Antibody, PE anti-CD31 (PECAM-1)

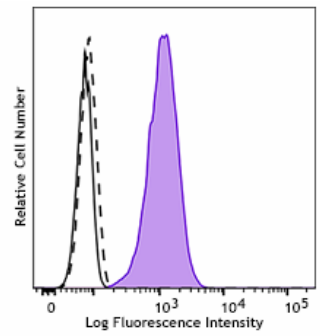
Product Data



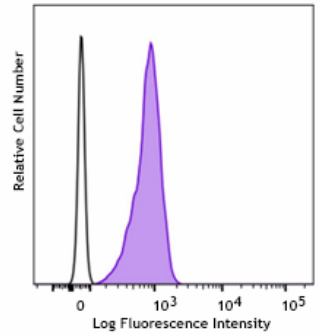
IHC staining with Alexa Fluor® 647 anti-CD31 (PECAM-1) (clone JC70) on formalin-fixed paraffin-embedded human kidney tissue. Following antigen retrieval using 1X Tris-EDTA pH 9.0 Antigen Retrieval Buffer (Cat. No. 422704), the tissue was incubated with (panel A) or without (panel B) Alexa Fluor® 647 anti-CD31 (PECAM-1) (clone JC70). Nuclei were counterstained with DAPI (Cat. No. 422801). Images were captured with a 40X objective and merged (panels C and D). Scale bar: 50 µm



HEL cells (positive cell line, panels A and C) and A-431 cells (negative cell line, panels B and D) were fixed with 4% PFA Fixation Buffer (Cat. No. 420801) for 10 minutes and permeabilized with 100% ice-cold methanol for 10 minutes, and blocked with 5% FBS for 1 hour at room temperature. Cells were then stained with Alexa Fluor® 647 anti-CD31 (PECAM-1) (clone JC70) (red, panels A and B). Nuclei were counterstained with DAPI (Cat. No. 422801) (blue). The images were captured on a Revvity Operetta CLS™ High Content Analysis System with a 63X objective and merged (panels C and D). Scale bar: 20 µm



HEL cells (positive cell line, filled histogram) and A-431 cells (negative cell line, open histogram) were fixed with Fixation Buffer (Cat. No. 420801), permeabilized using True-Phos™ Perm Buffer (Cat. No. 425401), and intracellularly stained with either Alexa Fluor® 647 anti-CD31 (PECAM-1) (clone JC70) or Alexa Fluor® 647 Mouse IgG1, κ Isotype Control (open histogram, dashed line) (representative of both cell lines) (Cat. No. 400130).



Human peripheral blood granulocytes were stained with either Alexa Fluor® 647 anti-CD31 (clone JC70) (positive cell line, filled histogram) or Alexa Fluor® 647 Mouse IgG1, κ Isotype Control (negative control, open histogram) (Cat. No. 400130).

8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587