

MONOCLONAL ANTIBODY

CD31

Cat. No.	Form	Quantity	Presentation
2052	Purified	0.2 mg	Freeze-dried
2409	PE	100 tests	Liquid 2 mL

Clone 1F11

Isotype IgG1 (mouse)

Immunogen T cell line Jurkat

Hybridoma Myeloma x Balb/CJ spleen cells

Specificity The CD31 antigen, also called Platelet Endothelial Cell Adhesion Molecule-1 (PECAM-1) and platelet gpIIa', is a single-chain membrane glycoprotein of 140 kDa, having Ig-like extracellular domains and an overall structure of cell adhesion molecules (1, 2).
It is present on platelets, endothelial cells, monocytes, granulocytes, B cells and a T cell subset (CD45RA⁺ population of CD4⁺ cells ; 3-6).
It is reported to be an endothelial adhesion molecule (1, 2).
1F11 antibody was characterized in ref. 3 and was evaluated during the Vth International Workshop on Human Leukocyte Differentiation Antigens (7).

Applications Cell adhesion molecule studies.
Useful marker for identification of T cells of suppressor on helper lineage.

Buffer Freeze-dried form: 1 mg/mL bovine serum albumin in phosphate-buffered saline.
Liquid form: 2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

Conjugation PE: R-phycoerythrin (PE) is conjugated at 0.7-1 mole of PE per mole of IgG
Excitation wavelength: 488 nm
Maximum emission wavelength: 575 nm
Main emission color: Orange-red

Reconstitution and Storage The freeze-dried form may be stored at 2-8°C until the expiration date stated on the vial label. Reconstitute with 1 mL of distilled water. No preservative has been added. The reconstituted form may be stored at -20°C until the expiration date stated on the vial label. Aliquotting is suggested to avoid multiple freeze-thaw cycles. The addition of sodium azide at 0.1% (w/v) is recommended for storage of the reconstituted form for up to one month at 2-8°C.
The conjugated forms should not be frozen and should be stored in the dark at 2-8°C until the expiration date stated on the vial label.

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MA903

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Recommended Procedures

Fluorescent microscopy or flow cytometry

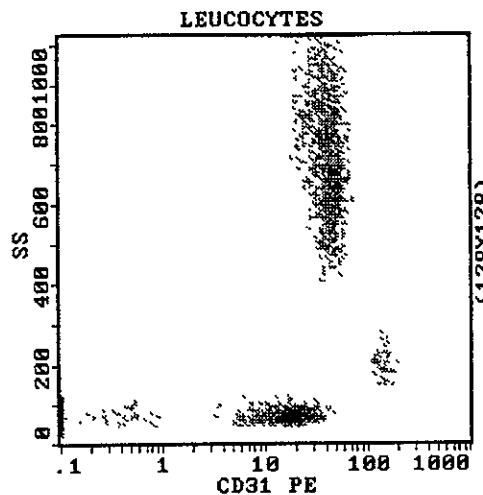
Liquid form: 20 μ L / 5×10^5 platelets / test.

Freeze-dried form: 2 μ g / 5×10^5 platelets / test.

Limitation: R-Phycoerythrin (PE) is sensitive to light exposure. Consequently, PE-conjugated antibodies are not suitable for fluorescent microscopy

Example data

Flow cytometric analysis of whole blood staining experiment, CD31 PE.



References

Articles referring to 1F11 clone are indicated in bold.

- 1) Newman, P.J., Berndt, M.C., Gorski, J., White II, G.C., Lyman, S., Paddock, C., Muller, W.A., "PECAM-1 (CD31) cloning and relation to adhesion molecules of the immunoglobulin gene superfamily", 1990, *Science*, **247**, 1219-1222.
- 2) DeLisser, H.M., Newman, P.J., Albelda, S.M., "Molecular and functional aspects of PECAM-1/CD31", 1994, *Immunol. Today*, **15**, 490-495.
- 3) Torimoto, Y., Rothstein, D.M., Dang, N.H., Schlossman, S.F., Morimoto, C., "CD31, a novel cell surface marker for CD4 cells of suppressor lineage, unaltered by state of activation", 1992, *J. Immunol.*, **148**, 388-396.
- 4) Morimoto, C., Schlossman, S.F., "Human naive and memory T cells revisited: new markers (CD31 and CD27) that help define CD4⁺ T cell subsets", 1993, *Clin. Exp. Rheumatol.*, **11**, 241-247.
- 5) Ashman, L.K., Aylett, G.W., "Expression of CD31 epitopes on human lymphocytes: CD31 monoclonal antibodies differentiate between naive (CD45RA⁺) and memory (CD45RA⁻) CD4-positive T cells", 1991, *Tissue Antigens*, **38**, 208-212.
- 6) Sugita, K., Soiffer, R.J., Murray, C., Schlossman, S.F., Ritz, J., Morimoto, C., "The phenotype and reconstitution of immunoregulatory T cell subsets after T cell-depleted allogeneic and autologous bone marrow transplantation", 1994, *Transplantation*, **57**, 1465-1473.
- 7) Newman, P.J., Paddock, C., "CD31 cluster workshop report", 1995, in *Leucocyte Typing V*, Schlossman, S.F., et al., Eds., Oxford University Press, p. 1259-1265.