Mouse CD31/PECAM-1 APC-conjugated Antibody

Monoclonal Rat IgG_1 Clone # 693102

Catalog Number: FAB6874A

100 TESTS

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD31/PECAM-1 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse (rm) DCC, rmICAM-1, -2, -5, rmMAdCAM-1, rmVCAM-1, recombinant porcine CD31/PECAM-1, recombinant human (rh) CD31/PECAM-1, rhCEACAM-1, rhSIGIRR, rhICAM–3, or rhICAM-4 is observed.
Source	Monoclonal Rat IgG_1 Clone # 693102
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0 mouse myeloma cell line transfected with mouse CD31/PECAM-1 Glu18-Lys590 Accession # Q08481
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

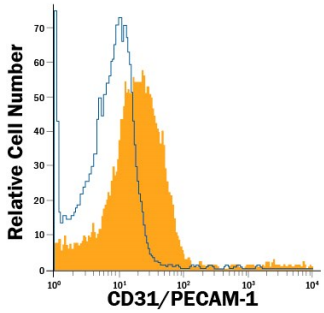
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of CD31/PECAM-1 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were stained with Rat Anti-Mouse CD31/PECAM-1 APC-conjugated Monoclonal Antibody (Catalog # FAB6874A, filled histogram) or isotype control antibody (Catalog # IC005A, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

Mouse CD31/PECAM-1 APC-conjugated Antibody

Monoclonal Rat IgG_1 Clone # 693102

Catalog Number: FAB6874A

100 TESTS

BACKGROUND

PECAM-1 (Platelet-Endothelial Cell Adhesion Molecule-1), also known as CD31, is a 130 kDa type I transmembrane glycoprotein adhesion molecule that belongs to the immunoglobulin superfamily (1, 2). Expression is restricted to cells involved in circulation, especially endothelial cells, platelets, monocytes, neutrophils and lymphocyte subsets. CD31 is concentrated at cell-cell junctions and is required for transendothelial migration (TEM) (1–3). The extracellular domain (ECD) of CD31 has ten potential N-linked glycosylation sites and six C2-type Ig-like domains, the first of which is critical for adhesion and extravasation (3, 4). The cytoplasmic domain contains immunoregulatory tyrosine-based inhibitory and switch motifs (ITIM, ITSM) that mediate both inhibition and activation via phosphotyrosine-mediated engagement of SH2-containing signaling molecules (1, 5). Metalloproteinase-mediated ectodomain shedding occurs during apoptosis (6) but increased serum CD31 ectodomain in HIV and active multiple sclerosis occurs independent of apoptosis (7, 8). In humans, expression of six isoforms with exon deletions in the cytoplasmic domain is tissue- and stage-specific, but full-length CD31 is predominant. A form lacking the ITSM predominates in mouse (9). Mouse CD31 ECD shows 77%, 63%, 63%, 63% and 61% amino acid (aa) sequence identity with rat, human, canine, porcine and bovine CD31, respectively. Although, CD31 participates with other adhesion molecules in some functions, it is the critical molecule for TEM. Homotypic CD31 adhesion *in trans*, combined with cycling of CD31 to and from surface-connected endothelial cell vesicles, leads leukocytes across endothelial tight junctions (3, 10). Homotypic adhesion and signaling functions also strongly suppress mitochondria-dependent apoptosis (11). In platelets, CD31 is necessary for limiting thrombus formation and promoting integrin-mediated clot retraction and platelet spreading, but the mechanism for these phenomena is unclear (12-13). $CD31^{-/-}$ mice are deficient in chemokine-mediated chemotaxis (14).

References:

1. Ilan, N. and J.A. Madri (2003) Curr. Opin. Cell Biol. **15**:515.
2. Xie, Y. and Muller, W.A. (1993) Proc. Natl. Acad. Sci. USA **90**:5569.
3. Liao, F. *et al.* (1997) J. Exp. Med. **185**:1349.
4. Nakada, M.T. *et al.* (2000) J. Immunol. **164**:452.
5. Chemnitz, J.M. *et al.* (2004) J. Immunol. **173**:945.
6. Ilan, N. *et al.* (2001) FASEB J. **15**:362.
7. Eugenin, E.A. *et al.* (2006) J. Leukoc. Biol. **79**:444.
8. Losy, J. *et al.* (1999) J. Neuroimmunol. **99**:169.
9. Wang, Y. *et al.* (2003) Am. J. Physiol. Heart Circ. Physiol. **284**:H1008.
10. Mamdouh, Z. *et al.* (2003) Nature **421**:748.
11. Gao, C. *et al.* (2003) Blood **102**:169.
12. Falati, S. *et al.* (2006) Blood **107**:535.
13. Wee, J.L. and D.E. Jackson (2005) Blood **106**:3816.
14. Wu, Y. *et al.* (2005) J. Immunol. **175**:3484.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956