Mouse/Rat CD31/PECAM-1 Alexa Fluor® 488-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: FAB3628G
100 TESTS, 25 TESTS

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse CD31/PECAM-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human CD31 and recombinant porcine CD31 is observed. Detects mouse CD31 and rat CD31 in flow cytometry.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CD31/PECAM-1 Glu18-Lys590 Accession # Q08481
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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.

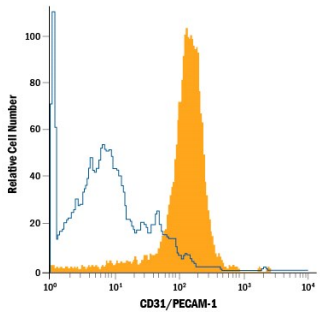
APPLICATIONS

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	5 µL/10^6 cells	See Below

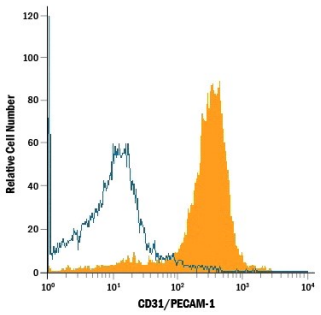
DATA

Flow Cytometry



Detection of CD31/PECAM-1 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were stained with Goat Anti-Mouse/Rat CD31/PECAM-1 Alexa Fluor® 488-conjugated Antigen Affinity-purified Polyclonal Antibody (Catalog # FAB3628G, filled histogram) or isotype control antibody (Catalog # IC108G, open histogram). View our protocol for Staining Membrane-associated Proteins.

Flow Cytometry



Detection of CD31/PECAM-1 in Rat Splenocytes by Flow Cytometry. Rat splenocytes were stained with Goat Anti-Mouse/Rat CD31/PECAM-1 Alexa Fluor® 488-conjugated Antigen Affinity-purified Polyclonal Antibody (Catalog # FAB3628G, filled histogram) or isotype control antibody (Catalog # IC108G, 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.

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BACKGROUND

PECAM-1 (Platelet-Endothelial Cell Adhesion Molecule-1), also known as CD31, is a 130 kDa type I transmembrane glycoprotein adhesion molecule in the immunoglobulin superfamily (1, 2). Expression is restricted to cells involved in circulation, especially endothelial cells, platelets, monocytes, neutrophils and lymphocyte subsets. PECAM-1 is concentrated at cell-cell junctions and is required for Transendothelial Migration (TEM) (1-3). The Extracellular Domain (ECD) of PECAM-1 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 PECAM-1 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 PECAM-1 is predominant. A form lacking the ITSM predominates in mouse (9). Mouse PECAM-1 ECD shows 77%, 63%, 63%, 63%, and 61% amino acid (aa) identity with rat, human, canine, porcine, and bovine PECAM-1, respectively. PECAM-1 participates with other adhesion molecules in some functions, but is the critical molecule for TEM. Homotypic PECAM-1 adhesion in trans, combined with cycling of PECAM-1 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, PECAM-1 is necessary for limiting thrombus formation (12) and promoting integrin-mediated clot retraction and platelet spreading (13), but mechanisms for these phenomena are unclear. $PECAM^{-/-}$ mice are deficient in chemokine-mediated chemotaxis (14).

References:

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