

Datasheet for ABIN2191833

anti-CD31 antibody[Go to Product page](#)**1** Image**4** Publications

Overview

Quantity:	100 µg
Target:	CD31 (PECAM1)
Reactivity:	Mouse
Host:	Rat
Clonality:	Monoclonal
Conjugate:	This CD31 antibody is un-conjugated
Application:	Flow Cytometry (FACS), Immunoprecipitation (IP), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunoassay (IA)

Product Details

Clone:	ER-MP12
Sterility:	0.2 µm filtered

Target Details

Target:	CD31 (PECAM1)
Alternative Name:	Pecam-1 (PECAM1 Products)
Background:	The monoclonal antibody ER-MP12 recognizes mouse platelet endothelial cell adhesion molecule-1 (PECAM-1,CD31). PECAM-1 is a 130 kDa glycoprotein involved in cell adhesion and a signalling receptor that is expressed on hematopoietic and endothelial cells. It is a member of the immunoglobulin (Ig)-superfamily of cell adhesion molecules. The type I transmembrane protein is composed of an extracellular region of six Ig-like homology domains, a 19-residue

Target Details

transmembrane domain, and a 118 residue cytoplasmic tail and is differentially glycosylated involving N-linked and O-linked glycosylation sites. The signalling of PECAM-1 is based on 2 immuno receptor tyrosine inhibitory motifs (ITIMs) in its cytoplasmic domain. These ITIM domains can serve as docking sites for signalling molecules such as protein tyrosine phosphatases, and ligation of PECAM-1 can induce phosphorylation of tyrosine- and serine/threonine-residues of these intracellular regions eventually leading to activation of signalling pathways. The biological characteristics of PECAM-1 in these pathways and cellular adhesion have been mapped to specific regions of the PECAM-1 Molecule. PECAM-1 is abundantly expressed on endothelial cells, where it is a major constituent of the endothelial cell intercellular junction in confluent vascular beds, making it a commonly used endothelial marker. Furthermore, it is expressed on most cells of the hematopoietic lineage including platelets, monocytes, neutrophils, and lymphocyte subsets. Besides adhesive properties PECAM-1 is an efficient signalling molecule. The protein is involved in vascular biology including angiogenesis, platelet function, and thrombosis, mechanosensing of endothelial cells, and regulation of multiple stages of leukocyte migration through venular walls. PECAM-1 is also a regulator of inflammatory responses. It has been shown to serve a variety of pro-inflammatory and anti-inflammatory functions. Pro-inflammatory functions of PECAM-1 include the facilitation of leukocyte transendothelial migration and the transduction of mechanical signals in endothelial cells originating from fluid shear stress. Anti-inflammatory functions include the dampening of leukocyte activation, suppression of pro-inflammatory cytokine production, and the maintenance of vascular barrier integrity. Monoclonal antibody ER-MP12 reacts also with the major population of colony forming unit macrophage (CFU-M) precursor cells, with a subpopulation of pre CFU-M and monoblasts, and with precursor cells of granulocytes. The antibody can also be used, in combination with the monoclonal antibody ER-MP20, for identification of different stages of myeloid progenitor cell development. Aliases Platelet endothelial cell adhesion molecule-1, CD31, EndoCam 1 Immunogen Mouse macrophage precursor hybrid cells. W1C3

Pathways: [Regulation of Actin Filament Polymerization](#)

Application Details

Application Notes: For immunohistochemistry and flow cytometry, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. For functional studies, in vitro dilutions have to be optimized in user's experimental setting. Positive Macrophage cell line RMB-1 control

Application Details

Restrictions: For Research Use only

Handling

Buffer: PBS, containing 0.1 % bovine serum albumin and 0.02 % sodium azide.

Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

Storage Comment: Product should be stored at 4 °C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label.

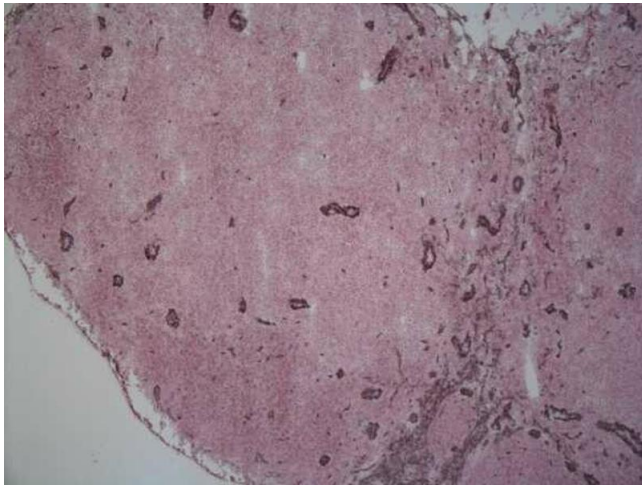
Publications

Product cited in: Jin, Jeon, Jung, Kim, Shin, Choi, Lee, Kang, Kim: "Enhancement of repopulation and hematopoiesis of bone marrow cells in irradiated mice by oral administration of PG101, a water-soluble extract from *Lentinus lepideus*." in: **Experimental biology and medicine (Maywood, N.J.)**, Vol. 228, Issue 6, pp. 759-66, (2003) ([PubMed](#)).

van Rijt, Prins, Leenen, Thielemans, de Vries, Hoogsteden, Lambrecht: "Allergen-induced accumulation of airway dendritic cells is supported by an increase in CD31(hi)Ly-6C(neg) bone marrow precursors in a mouse model of asthma." in: **Blood**, Vol. 100, Issue 10, pp. 3663-71, (2002) ([PubMed](#)).

Morioka, Naito, Sato, Takahashi: "Immunophenotypic and ultrastructural heterogeneity of macrophage differentiation in bone marrow and fetal hematopoiesis of mouse in vitro and in vivo." in: **Journal of leukocyte biology**, Vol. 55, Issue 5, pp. 642-51, (1994) ([PubMed](#)).

de Bruijn, Slieker, van der Loo, Voerman, van Ewijk, Leenen: "Distinct mouse bone marrow macrophage precursors identified by differential expression of ER-MP12 and ER-MP20 antigens." in: **European journal of immunology**, Vol. 24, Issue 10, pp. 2279-84, (1994) ([PubMed](#)).



Immunohistochemistry

Image 1. Mouse spleen frozen sections were stained with ER-mp12 (2µg/ml).