

## Anti-Mouse CD31 (PECAM-1) / Endothelial Cell Marker Rat Monoclonal Antibody

### Product Information

<b>Catalog-No.:</b>	<b>DIA 310 (100 µg)</b>	<b>Species Reactivity</b>	
	DIA 310 M (20 µg sample)	Mouse	
<b>Concentration:</b>	0,2 mg/ml	<b>Applications</b>	<b>Dilution</b>
<b>Clone:</b>	SZ31	Immunohistochemistry (Standard formalin-fixed paraffin and frozen sections)	1:10 – 1:20
<b>Isotype:</b>	Rat IgG2a	Western blot	1:5.000
<b>Specificity:</b>	Murine CD31 (PECAM-1) (adult and embryonic endothelial cells)	Others not tested	
<b>Immunogen:</b>	Murine CD31 amino acid fragment, proprietary		
<b>Physical State:</b>	lyophilized powder		
<b>Reconstitution:</b>	After opening, restore to 500 µl (sample 100 µl) with sterile distilled water		
<b>Presentation:</b>	in PBS with 2% BSA, 0,05% NaN <sub>3</sub> , pH 7,4. Antibody purified from culture supernatant by protein G affinity chromatography.		

The indicated dilutions are general recommendations. For special applications optimal working dilutions should be determined individually.

### Reactivity

Antibody clone SZ31 is the first antibody which reacts specifically with murine CD31 in formalin-fixed paraffin-embedded tissue sections.

CD31, also known as PECAM-1 (Platelet Endothelial Cell Adhesion Molecule-1) is expressed constitutively on the surface of embryonic and adult endothelial cells. It is also expressed on cell surfaces of monocytes, neutrophils, platelets and certain T-cell subsets. It has been detected on bone marrow-derived hematopoietic stem cells and embryonic stem cells. CD31 is a 130kDa integral membrane glycoprotein and as a member of the immunoglobulin superfamily involved in the mediation of cell-to-cell adhesion. CD31-mediated endothelial cell-cell interactions play a major role in angiogenesis. Studies have shown CD31 to be a superior marker in human angiogenesis, which reportedly predicts tumor recurrence. Pathophysiological studies of CD31 in murine model systems had limitations because standard formalin-fixed sections were excluded. The clone SZ31 eliminates these restrictions by allowing high quality immunohistochemical analysis of standard formalin-fixed paraffin sections in mice.

### Instructions for Use

#### Immunohistochemical staining of standard formalin-fixed paraffin sections

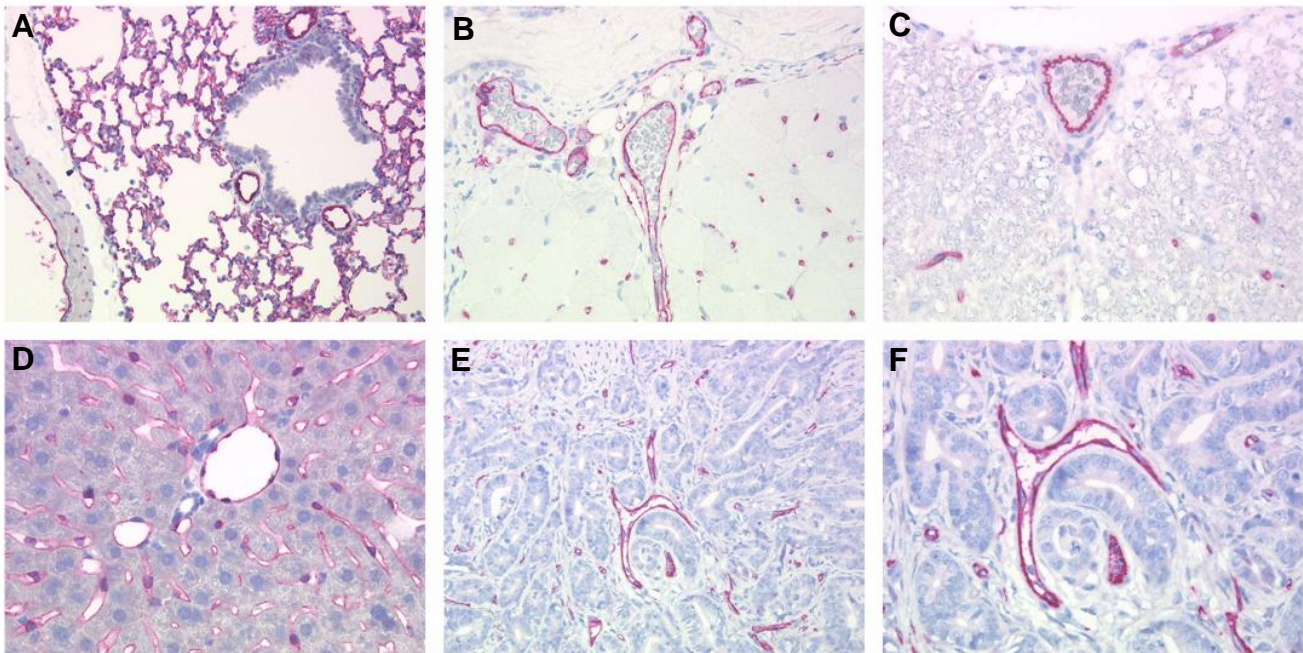
Indirect alkaline phosphatase staining (Other techniques, e.g. Avidin-Biotin-alkaline phosphatase (ABAP), alkaline phosphatase anti-alkaline phosphatase (APAAP) or horseradish peroxidase (HRP) -method are also possible).

1. Deparaffinize formalin-fixed paraffin-embedded mouse tissue sections by a standard procedure using xylol/ethanol
2. Antigen retrieval: high temperature heating of sections in citrate buffer pH 6,0 according to standard procedures
3. Block with 5% rabbit serum, 10 min RT
4. Wash with TBS, 3 x 5 min
5. Incubate with DIA310 (1:10-1:20), 30min RT
6. Wash with TBS, 3 x 5 min
7. Incubate with rabbit anti-rat IgG (H+L) alkaline phosphatase (1:200), 30min RT
8. Wash with TBS, 3 x 5 min
9. Add substrate, e.g. Neufuchsin, 30min RT
10. Counterstain, e.g. with Hematoxylin-Papanicolaou

### Storage and Stability

The antibody is stable for 1 year when stored as reconstituted liquid at 2-8°C.

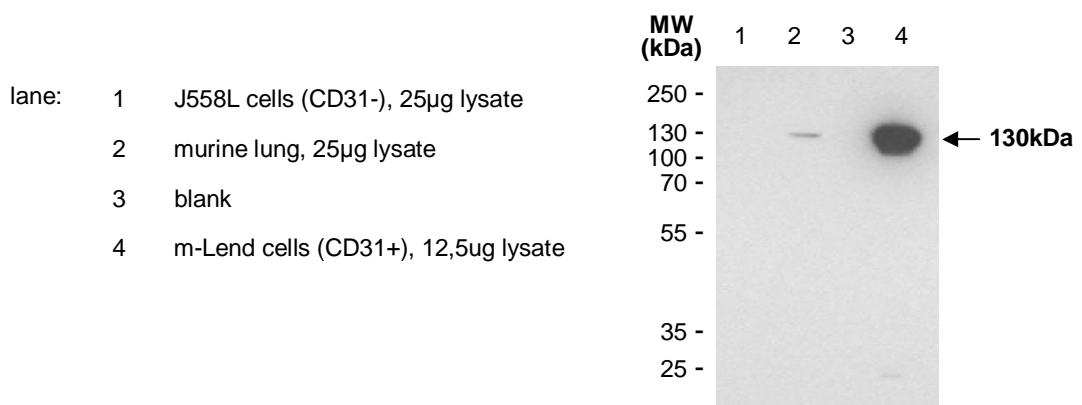
**Immunohistochemistry of mouse CD31 (PECAM-1) in formalin-fixed paraffin-embedded tissue sections**  
 (pictures courtesy of Prof.Dr.H.Stein, Institute of Pathology, Charité Campus Benjamin Franklin, Berlin, Germany)



The monoclonal antibody clone SZ31 reacts specifically with endothelial cells in vessels and capillaries of murine lung (A), skeletal muscle (B), spinal cord (C), liver (D), and murine adenocarcinoma (E, F). All sections were stained by an indirect alkaline phosphatase method according to standard procedures with antigen retrieval by high-temperature heating in citrate buffer and counterstaining with Hämatoxylin-Papanicolaou.

**Western blot analysis**

Immunoblot of extracts from murine lung, J558L cells and m-Lend cells using CD31 mouse monoclonal antibody clone SZ31 (DIA310 1:5.000) and goat anti-rat-HRP antibody (1:10.000)



**For research use only. Not for diagnostic or therapeutic use.**