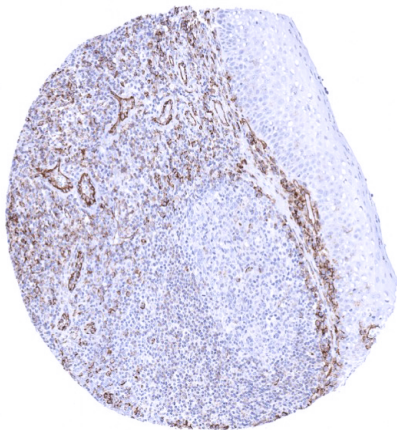


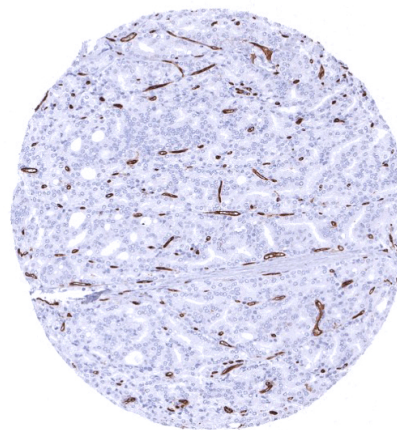
## Anti- CD31 Antibody MSVA-031 / Mouse monoclonal

Human SwissProt	P16284
Human Gene Symbol	PECAM1
Synonyms	EndoCAM; PECA1; Platelet Endothelial Cell Adhesion Molecule 1; GPIIA
Specificity	CD31
Immunogen	Recombinant fragment of human CD31
Isotype	Mouse / IgG
Species Reactivity	Human
Localization	Cell surface and cytoplasm of endothelial cells

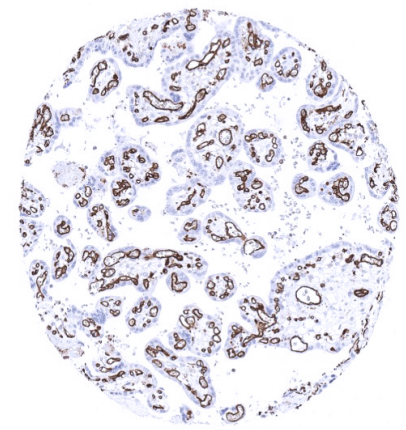
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Appendix: A strong, predominantly membranous staining reaction of virtually all normal endothelial cells should be seen. In addition, a fraction of lymphocytes should present at least a weak to moderate staining. Liver: At least a weak to moderate staining of the majority of the hepatic sinusoidal endothelial cells is expected.
Negative Control	Appendix: All normal (non-neoplastic) epithelial tissues must be CD31 negative.



Strong CD31 staining is seen in small vessels of a tonsil. A fraction of lymphocytes, especially in the marginal zone, stain weakly positive while epithelial cells are completely negative.



Small intratumoral vessels are identified by strong CD31 positivity of endothelial cells in a prostate cancer.



Strong CD31 staining of endothelial cells from small blood vessels in a mature placenta.

### Biology

CD31 (platelet-endothelial cell adhesion molecule 1; PECAM-1), is a transmembrane glycoprotein belonging to the immunoglobulin super family. CD31 represents a large portion of endothelial cell intercellular junctions where it plays a functional role in leukocyte transmigration. CD31 is strongly expressed in endothelial cells of all organs, including alveolar wall capillaries, glomeruli, and sinuses in the liver, lymphatics, or spleen. CD31 is moderately expressed in sinusoids of the liver, and weakly expressed in megakaryocytes, platelets, and neutrophils. In B lymphocytes, CD31 expression changes during the differentiation process. CD31 also occurs in a fraction of T-cells. Macrophages show a variable degree of CD31 positivity and high intensity macrophage staining is particularly seen in cancers. CD31 is consistently expressed in vascular tumors and often in B-cell lymphomas. B-cell non Hodgkin lymphoma show a heterogeneous pattern of CD31 expression depending on their histogenetic derivation. CD31 expression is usually high in small lymphocytic lymphoma, intermediate in marginal zone and diffuse large cell lymphomas, and low in follicular lymphoma. CD31 can also be aberrantly expressed in non-vascular tumors. CD31 positivity has for example been reported for individual cases of peripheral neuroectodermal tumors (PNET), mucoepidermoid carcinoma, papillary thyroid carcinoma, sweat gland tumours, metaplastic breast carcinoma with spindle cells, and malignant mesothelioma.

### Potential Research Applications

- The microvessel density is considered a prognostic feature in several cancer types. The relevance of the tumor vessel density needs to be further evaluated, also in combination with a quantitation of other elements (inflammatory cell types) of the tumor microenvironment.
- CD31 can be expressed in non-vascular neoplasias. The tumor-biologic role of this phenomenon needs to be evaluated.
- The clinical significance of vascular invasion by tumor cells should be further investigated.
- The role of angiogenic T-cells - positive for CD3, CD31 and CXCR4 - is still insufficiently understood.

### Protocol Suggestions

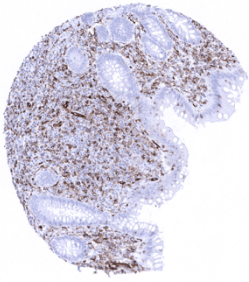
**Dilution: 1:150 ; pH7,8 is optimal.** Freshly cut sections should be used (less than 10 days between cutting and staining).

### Limitations

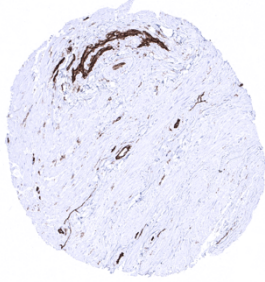
This antibody is available **for research use only** and is not approved for use in diagnostics.

### Warranty

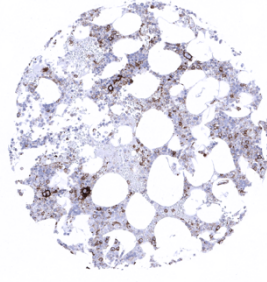
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



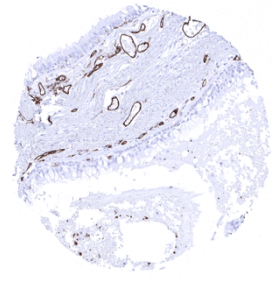
Appendix, mucosa



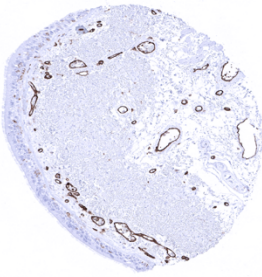
Appendix, muscular wall



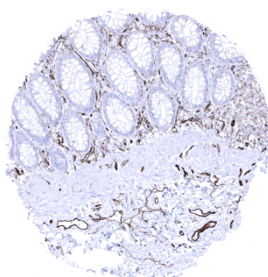
Bone marrow



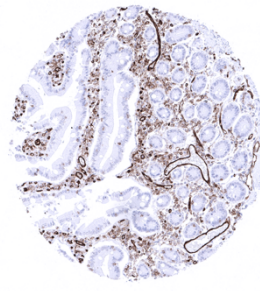
Bronchus, mucosa



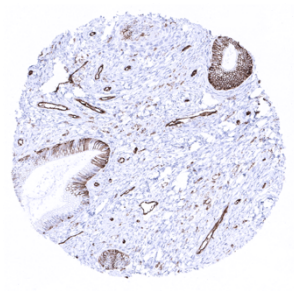
Bronchus, mucosa



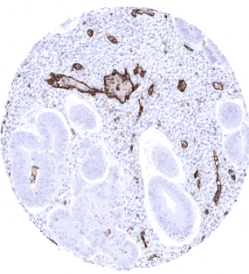
Colon descendens, mucosa



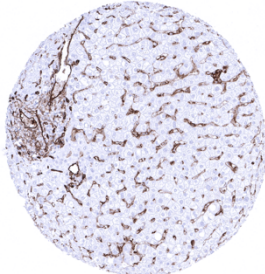
Duodenum, mucosa



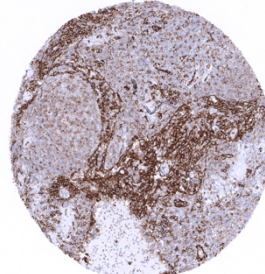
Endocervix



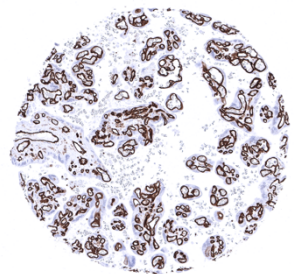
Endometrium, proliferation



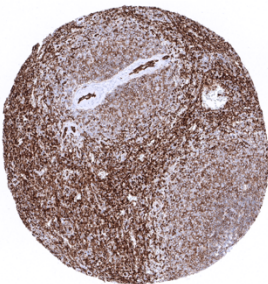
Liver



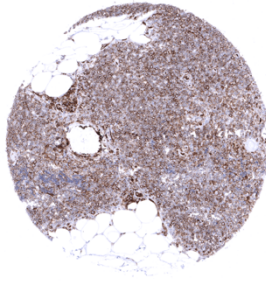
Lymph node



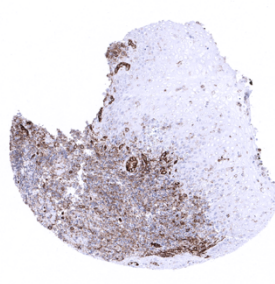
Placenta, mature



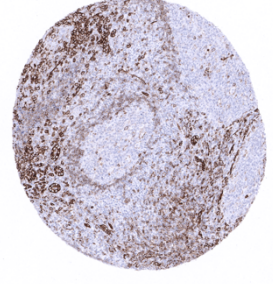
Spleen



Thymus



Tonsil, surface epithelium



Tonsil