CD31


INFORMATION ABOUT CD31 MOLECULE PROVIDED BY THE MANUFACTURER:

- Platelet/endothelial adhesion molecule (PECAM-1) or CD31 belong to the immunoglobulin superfamily group with adhesive properties. It is a single chain type I transmembrane glycoprotein with a molecular mass of 130 kDa. It is strongly expressed by all endothelial cells and more weakly on several types of leukocytes. Functionally CD31 is an adhesion molecule with both homophilic and heterophilic binding. The homotypic binding involves interaction as an important step in leucocyte transendothelial migration (diapedesis) and passage through extracellular matrix. The heterotypic ligands have been reported to include integrin avb3 and glycosaminoglycans. Staining of vessels with antibody to CD31 is suitable in the judgement of angiogenesis in several types of tumors such as breast cancer, colorectal cancer and lung cancer.
- This antibody has been produced using as immunogen membrane preparation of a spleen from a patient with hairy cell leukemia.

SPECIFICITY/REACTIVITY ACCORDING TO MANUFACTURER:

- The specificity of this antibody for CD31 was confirmed in the Fifth International Workshop and Conference of Human leukocyte Differentiation Antigens (Boston, 1993).
- Formalin-fixed tissues: This antibody has a strong reactivity with a formalin-resistant epitope on CD31 in endothelial cells in normal tissues and in benign and malignant proliferations.
- Cryostat sections and cell smears: It also labels megakaryocytes, platelets and occasionally plasma cells. It reacts weakly with mantle zone B cells, peripheral T cells and neutrophils.

STAINING PROCEDURE ACCORDING TO MANUFACTURER:

- Formalin-fixed tissues: Antigen retrieval (heat) can be used on formalin-fixed, paraffin-embedded tissues OR prolonged enzymatic digestion with proteolytic enzymes (trypsin, pronase) should be performed. With LSAB+ method the dilution is around 1/20 to 1/40.
- Frozen sections and cell smears: It can be used on acetone-fixed frozen sections or cell smears. For cell smears the APAAP method is recommended. Dilution around 1/20 to 1/40.

WORKING DILUTION: 1/100. Pretreatment with steamer (citrate buffer, pH 6.0).

METHOD: LSAB2-PO. 1 h. RT.

CELLS/TISSUES STAINED (canine tissues unless specified):

- Canine skin with hemangiosarcoma: Strong reaction in all neoplastic endothelium lining vascular beds and weaker in non-lining cells. Normal endothelium is also reactive. Moderate to strong reaction in plasma cells. Plasma is strongly stained with this antibody (also the negative control).
REFERENCES:


