P.O. Box 3286 - Logan, Utah 84323, U.S.A. - Tel. (800) 729-8350 – Tel. (435) 755-9848 - Fax (435) 755-0015 - www.scytek.com

CD31; Clone C31.3
(Ready-To-Use)

Availability/Contents:

Item #	Volume
A00126-0002	2 ml
A00126-0007	7 ml
A00126-0025	25 ml

Description:

Species: Mouse

Immunogen: Human spleen membranes from a patient with hairy cell leukemia was used as immunogen to generate the CD31 (PECAM-1) antibody (Parums, 1990).

Clone: C31.3

Isotype: Mouse IgG1, Kappa

Format: This antibody has been pretitered and quality controlled to work on formalin-fixed paraffin-embedded as well as acetone fixed cryostat tissue sections. No further titration is required.

Specificity: The CD31 antibody (clone C31.3 or PECAM-1) is widely used as a pan-endothelial cell marker to demonstrate the presence of endothelial cells in tissue sections by immunohistochemistry. The CD31 (PECAM-1) antibody reacts with normal, benign, and malignant endothelium.

Background: CD31 (PECAM-1) is a transmembrane glycoprotein member of the immunoglobulin supergene family of adhesion molecules, and plays key roles in leukocyte migration, angiogenesis, and integrin activation. CD31 is expressed on endothelial and hematopoeitic (platelets, monocytes, macrophages, granulocytes, T and B lymphocytes, dendritic, bone marrow stem and adult) cells. The CD31 antibody stains these various cell types to various degrees (Parvens, 1990; Govender, 1997).

The CD31 antibody (clone C31.3 or PECAM-1) is widely used as a pan-endothelial cell marker to demonstrate the presence of endothelial cells in tissue sections by immunohistochemistry. The CD31 (PECAM-1) antibody reacts with normal, benign, and malignant endothelium and has a number of practical applications including marking vessels and assessing tumor microvessel density (Giatromanolaki, 2012). Since malignant endothelium retains CD31 expression, the CD31 antibody is commonly used in antibody panels to determine or confirm tissue origin of a given tumor (Gratzinger, 2009). This can be particularly useful as it can otherwise be difficult to distinguish endothelial from other cell types in routine tissue sections solely by morphological features.

Endothelial cells make up blood vessel lining, and angiogenesis refers to the growth of new blood vessels from pre-existing vessels. Pathological angiogenesis is associated with tumor growth and metastasis, and the CD31 antibody is useful for helping to confirm (CD31 / PECAM-1 antibody positive) or exclude (CD31 / PECAM-1 antibody negative) neoplastic angioinvasion (Jernman, 2012). The level of CD31 expression can help to determine the degree of tumor angiogenesis, and a high level of CD31 (PECAM-1) antibody staining may imply a rapidly growing tumor and potentially a predictor of tumor recurrence.

Species Reactivity: Human.

Positive Control: Tonsil, Liver, Kidney.

Cellular Localization: Membrane.

Titer/Working Dilution: No further dilution is required.

Microbiological State: This product is not sterile.

Storage: 2° C – 8° C

ScyTek Laboratories, Inc.
205 South 600 West
Logan, UT 84321
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CE IVD

EC REP EmergoEurope (31)(0) 70 345-8570
Molsnstraat 15
2513 BH Hague, The Netherlands

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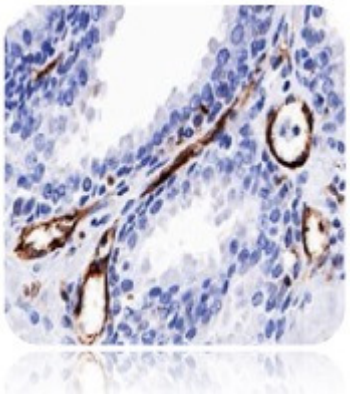
Uses/Limitations:

Not to be taken internally.
For In Vitro Diagnostic Use.
This product is intended for qualitative immunohistochemistry with normal and neoplastic formalin-fixed, paraffin-embedded tissue sections, to be viewed by light microscopy.
Do not use if reagent becomes cloudy.
Do not use past expiration date.
Use caution when handling reagents.
Non-Sterile.



Ordering Information and Current Pricing at www.scytek.com

Procedure:

1. **Tissue Section Pretreatment REQUIRED:** Staining of formalin fixed, paraffin embedded tissue sections is enhanced by pretreatment with EDTA – Saline Buffer (10X Concentrate); pH 8.0 (ScyTek catalog# ETA500).

2. **Primary Antibody Incubation Time:** We suggest an incubation period of 30 minutes at room temperature. However, depending upon the fixation conditions and the staining system employed, optimal incubation should be determined by the user.

3. **Visualization:** For maximum staining intensity we recommend the "UltraTek HRP Anti-Polyvalent Lab Pack" (ScyTek catalog# UHP125, see IFU for instructions) combined with the "DAB Chromogen/Substrate Bulk Pack (High Contrast)" (ScyTek catalog# ACV500, see IFU for instructions).

Precautions:

Contains Sodium Azide as a preservative (0.09% w/v).
Do not pipette by mouth.
Avoid contact of reagents and specimens with skin and mucous membranes.
Avoid microbial contamination of reagents or increased nonspecific staining may occur.
This product contains no hazardous material at a reportable concentration according to U.S. 29 CFR 1910.1200, OSHA Hazardous Communication Standard and EC Directive 91/155/EC.

References:

1. Parums DV, JL Cordell, K Micklem, AR Heryet, KC Gatter, DY Mason. J Clin Pathol 43:752-757 (1990). WB: Fig 1 (spleen and platelets); Immunocytochemistry: Fig 2 (blood smear); IHC (frozen): Fig 3 (tonsil); IHC (paraffin): Figs 4-7 (various tissues).
2. Govender D, P Harilal, M Dada, R Chetty. J Clin Pathol 50:490-493 (1997). IHC (paraffin): Fig 1 (chronic inflammatory infiltrate), Fig 2 (multiple myeloma).
3. Jernman J, MJ Valimaki, J Jouhimo, C Haglund, J Arola. Neuroendocrinology 94:317-324 (2012). IHC (paraffin): Tables 1-3 (gastrointestinal neuroendocrine neoplasms).
4. Giatromanolaki A, MI Koukourakis, E Sivridis, K C Gatter, T Trarbach, G Folprecht, M M Shi, D Lebwohl, T Jalava, D Laurent, G Meinhardt, AL Harris. BJC doi: 10.1038/bjc.2012.369 (2012). IHC (paraffin): Fig 1 (colon carcinoma).
5. Gratzinger D, S Zhao, R West, RV Rouse, H Vogel, EC Gil, R Levy, IS Lossos, Y Natkunam. Am J Clin Pathol 131:264-278 (2009). IHC (P). IHC (P): Figs 2B (myocardial vasculature), 2D (fetal myocardial vasculature). Various other tissues were used in this study and results described.

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