

For Research Use Only. Not For Use In Diagnostic Procedures.

SPECIFICITY

The CD146 molecule, also known as S-Endo, Muc 18, and MCAM or melanoma cell adhesion molecule (Mel-CAM) is a single chain transmembrane glycoprotein with a molecular weight of 118 kDa and it belongs to the immunoglobulin superfamily (IgS) (1). The extracellular structure consists of five Ig-like domains: three C2-type Ig-like domains proximal to the cellular membrane and two V-type Ig-like domains distal to the cellular membrane.

CD146 is constitutively expressed in the whole human endothelium, and is also observed on other cell types such as melanoma cells, smooth muscle cells, intermediate trophoblast. Among peripheral whole blood leucocytes, CD146 expression is not detected, except on a subset of activated T-lymphocytes (1, 2).

The CD146 antigen is related to cell adhesion molecules of the IgS family and its presence is concentrated at region of cell-cell contact confirming a role in adhesion and particularly in maintenance of monolayer integrity (3).

The TEA1/34 monoclonal antibody was assigned to the CD146 cluster of differentiation during the 6th Human Leucocytes Differentiation Antigen international workshop, held in Kobe, Japan, in 1996 (WS Code: E077, Section E) (1).

REAGENT

IOtest CD146-PE Conjugated Antibodies
PN A07483 – 100 tests – 20 µL / test

Clone TEA1/34
Isotype IgG2a, mouse
Immunogen HUVECs
Hybridoma SP2/0 x Balb/c
Source Ascites fluid
Purification Ion exchange or affinity chromatography
Conjugation R-phycoerythrin (PE) is conjugated at 0.5 – 1.5 moles of PE per mole of Ig.

Excitation wavelength: 488 nm
Maximum emission wavelength: 575 nm
Main emission color: Orange-red
Buffer 2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.

APPLICATION

Research studies of CD146-expressing cells involved in tumor progression and/or vascular disorders (4, 5).

STATEMENT OF WARNINGS

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin

or eye contact occurs, wash excessively with water.

2. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.

STORAGE CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. Minimize exposure to light.

REAGENT PREPARATION

No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

PROCEDURE

This reagent is designed for flow cytometry. Assay volume: 20 µL per 5 x 10⁶ cells in one test, or per 100 µL whole blood. A wash is required to yield optimal results.

EXAMPLE DATA

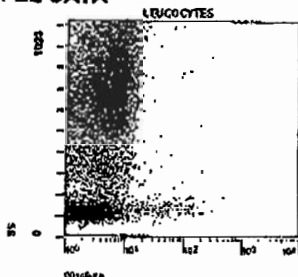


Figure 1: biparametric representation (Side Scatter vs. Fluorescence Intensity) of a lysed whole blood sample from a healthy donor. Staining is with the IOtest CD146-PE Conjugated Antibody (PN A07483). All leucocytes are shown. Erythrocytes lysis is performed with VersaLyse Solution (PN IM3648) and IOtest 3 Fixative solution (PN IM3515).

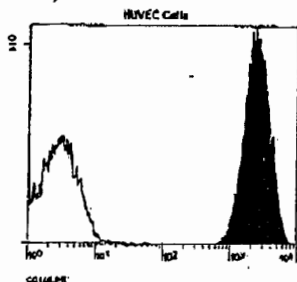


Figure 2: monoparametric representation (Count vs. Fluorescence Intensity) of

HUVECs stained with the IOtest CD146-PE Conjugated Antibody (PN A07483). The isotypic control (mouse IgG2a-PE, PN IM0671) staining is shown in light.

Acquisition are performed with a COULTER® EPICS® XL™ flow cytometer equipped with System II™ software. Analysis are performed with EXPO™ 32 software.

SELECTED RESEARCH REFERENCES

1. [5797] F., Dignat-George, N., Bardin, C., Buckley, V., Combes, D., Figarella-Branger, V., Francès, M., Herlyn, J.P., Johnson, H., Lepidi, M., Mutin, J.P., Newton, W.F., Pickl, M., Schnemann, D., Sommons, J., Simoni, and J., Sampol, "CD146 (S-ENDO/Muc 18) Workshop Panel Report", 1997, Leucocyte Typing VI, T. Kishimoto et al., Eds., Garland Publishing, Inc., New York & London 755-759.
2. [5826] W., F., Pickl, O., Majdic, G., F., Fisher, P., Petzelbauer, I., Faé, M., Waclavicek, J., Stöckl, C., Scheincke, T., Vidicki, H., Aschauer, J., P., Johnson, W., Knapp, 1997, "MUC18/MCAM(CD146), an activation antigen of human T lymphocytes.", The Journal of Immunology, 158, 2107-2115.
3. [5787] N., Bardin, F., Anfosso, J.M., Massé, E., Cramer, F., Sabatier, A., Le Bivic, J., Sampol, and F., Dignat-George, "Identification of CD146 as a component of the endothelial junction involved in the control of cell-cell cohesion.", 2001, Blood, 98, 13, 3877-3883.
4. [5827] I.M., Shih, "The role of CD146 (Mel-CAM) in biology and pathology", 1999, J. Pathol., 189, 4-11.
5. [5789] F., Dignat-George, J., Sampol, 2000, "Circulating endothelial cells in vascular disorders: new insights into an old concept", Eur. J. Haematol, 65, 215-220.

PRODUCT AVAILABILITY

IOtest CD146-PE Conjugated Antibodies
PN A07483 – 100 tests – 20 µL / test

PE is licensed under US patent 4,520,110

For additional information in the USA, call 800-526-7694.

Outside the USA, contact your local Beckman Coulter representative.

TRADEMARKS

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