MONOCLONAL ANTIBODY CD50 (ICAM-3)

Cat. No.	Form	Quantity	Presentation
1600	Purified	0.2 mg	Freeze dried
1601	Phycoerythrin	100 tests	Liquid 2ml

Clone HP2/19

Isotype IgG2a (mouse)

Immunogen JMT cell leukemia cells

Hybridoma SP2 x Balb/c spleen cells

Specificity The antibody HP2/19 reacts specifically with the extracellular part of the ICAM-3 molecule

ICAMs (Intercellular Adhesion Molecules) are the adhesion counter-receptors for the Leukocyte Function Associated molecule 1 (LFA-1). The 3 known ICAMs of the Immunoglobulin superfamily are involved in inflammation and immunity but they have distinct biochemical characteristics, pattern of expression and functional properties (see table).

The immunoprecipitated ICAM-3 antigen has a molecular weight of 120 kDa as determined by gel electrophoresis

Antibody binding shows that the antigen is expressed on the cell surface of leucocytes and of a variety of cells but not of endothelial cells, platelets and erythrocytes. It is by far the most functionally important ICAM.

The monoclonal antibody HP2/19 blocks cellular adhesion which is mediated by ICAM-3

This table is a summary of the results published in the references listed hereunder.

CELLULAR DISTRIBUTION	ICAM-1 (CD54)	ICAM-2 (CD102)	ICAM-3 (CD50)
Endothelial cells	+	++	-
Activated Endothelial cells	++	++	-
B lymphocytes	+	++	+
T lymphocytes	+/-	++	++
NK cells	++	++	++
Eosinophiles	-	-	++
Neutrophiles	-	-	++
Monocytes	++	+	++
Platelets	-	++	-
Erythrocytes	-	-	-
FUNCTIONAL PROPERTIES	Regulates adhesion High affinity for LFA-1	Mediates adhesion Low affinity for LFA-1	Initiates adhesion Low affinity for LFA-1
STRUCTURE	5 Ig-like domains	2 Ig-like domains	5 Ig-like domains

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MA001

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Applications

Flow cytometry or Immunofluorescence

Immunohistochemistry

Adhesion studies

Immunoprecipitation

Buffer

Freeze dried form: 1 mg/ml bovine serum albumin in phosphate buffered saline

Liquid form: 2 mg/ml bovine serum albumin in phosphate buffered saline containing 0.1% sodium azide has been added as preservative

Reconstitution and storage

Freeze dried form may be stored at 2 - 8°C until the expiration date Reconstitute with 1 ml of distilled water No preservative has been added The reconstituted form may be stored at -20°C until the expiration date. Aliquotting is suggested to avoid multiple freeze-thaw cycles. The addition of sodium azide at 0.1% (w/v) is recommended for storage of the reconstituted form of up to one month at 2 - 8°C

Unconjugated liquid form should be stored at 2 - 8°C.

Conjugated forms should not be frozen and should be stored in the dark at 2 - 8°C.

Recommended procedures

Fluorescent microscopy and flow cytometry:

Freeze dried form . 2µg/5x10^5 cells/test
Liquid form: 20µl/5x10^5 cells/test or whole blood

Immunohistochemistry:

Suggested form: freeze dried
Working dilution : 1:20 to 1 50
This antibody is suitable on cryostat sections or cell smears. The antigen is sensitive to formaldehyde fixation.

References

1) This antibody has been assigned to the CD50 cluster of differentiation at fifth International Workshop on human leukocyte differentiation antigen in Boston (1993)

2) Makgoba M.W., Sanders M E., Ginther Luce G.E., Dustin M L., Springer T.A , Clark E.A , Mannoni P. and Shaw S "ICAM-1 a ligand for LFA-1-dependent adhesion of B, T and myeloid cells." (1988) Nature **331**, 86-88.

3) Damle N.K., Klussman K. and Aruffo A. "Intercellular adhesion molecule 2, a second counter-receptor for CD11a/CD18 (Leucocyte Function-associated Antigen 1) provides a costimulatory signal for T-cell receptor-initiated activation of human T cells", (1992) Journal of Immunology **148** (3), 665-671.

4) de Fougerolles A.R. and Springer T.A. "Intercellular adhesion molecule 3, a third adhesion counter-receptor for lymphocyte function associated molecule 1 on resting lymphocytes", (1992) J. Exp Med. **175**, 185-190.

5) Campanero M R., del Pozo M A , Arroyo A G., Sanchez-Mateos P, and Sanchez-madrid F "ICAM-3 interacts with LFA-1 and regulates the LFA-1/ICAM-1 cell adhesion pathway", (1993), Tissue Antigens **42** (4) Abstract AS013 p.261

6) Sanchez-Mateos P, Campanero M R., del Pozo M.A., Arroyo A.G , and Sanchez-madrid F.(1994) "ICAM-3 regulates intercellular adhesion and T cell interactions with extracellular matrix and endothelial cells", (1994), Abstract No W23-17 12th European Immunology Meeting 1-17 June 1994 Barcelona

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