



Peninsula Laboratories, LLC

A Member of the Bachem Group

305 Old County Road, San Carlos, CA 94070

Tel: (800) 922-1516 • (650) 592-5392

Fax: (650) 595-4071

www.bachem.com

Monoclonal Antibody to Human CD54 ICAM-1, Intercellular Adhesion Molecule 1

Monoclonal antibody 1304 detects CD54 (ICAM-1) and is useful for the detection of activated endothelial cells and other activated haemopoietic cells. The antibody inhibits the binding of natural killer (NK) cells to target cells (K562). Intercellular adhesion molecule (ICAM) 1 or CD54 was initially identified with monoclonal antibody RR1/1 as a widely distributed, cytokine-inducible counter-receptor for lymphocyte-function-associated antigen (LFA) 1 (CD11a/CD18). Granulomas (macrophages/epitheloid cells) in inflamed colon from Crohn's disease and follicular dendritic cells in the tonsil from chronic tonsillitis are strongly positive for CD54 antigen. Also, CD54 is found on activated CD56⁺/CD3⁻ NK cells.

Product Number:	T-1113
Clone:	1304
Host species, isotype:	Mouse IgG2a
Quantity:	100µg
Format:	Affinity purified, lyophilized Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 10mg/ml bovine serum albumin (BSA) as a stabilizer and 0.01% thimerosal as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C Stock solution or aliquots thereof: 1 year at -20°C. Avoid repeated thawing and freezing.
Applications:	Tested for immunohistochemistry (IHC); has been reported to work in FACS and Western Blots. Approximate working dilution for IHC: Frozen sections: 0.25µg/ml (1:800) Paraffin sections: 2µg/ml (1:100); Proteinase K pretreatment for antigen retrieval is recommended. Optimal dilutions should be determined by the end user. Suggested positive control: Human tonsil.
Immunogen:	Cultured human endothelial cells.
Antigen, epitope:	The antigen is CD54, the antibody recognizes an epitope on domain 1 of the molecule as tested on transfectants.
Biochemistry:	Clone 1304 stains a 95kD single chain integral membrane glycoprotein. The epitope is stable against acetone or paraformaldehyde fixation. ICAM 1 also functions as a rhinovirus receptor.



Peninsula Laboratories, LLC

A Member of the Bachem Group

305 Old County Road, San Carlos, CA 94070

Tel: (800) 922-1516 • (650) 592-5392

Fax: (650) 595-4071

www.bachem.com

Antigen distribution:

Isolated cells: ICAM-1 expression can be induced on endothelial cells by *in vitro* stimulation with IL-1, TNF α and IFN γ .

Tissue sections: In inflamed lesions, the antibody reacts with stimulated endothelial cells, epithelial cells and fibroblasts and with haemopoietic cells such as macrophages, dendritic cells in Peyer's patches, lymph nodes and tonsils.

Specificity:

Human: CD54.

Other: not tested.

Selected references

Albelda, S.M. & Buck, C.A.: Integrins and Other Cell Adhesion Molecules. *FASEB J.* **4**: 2868-80 (1990)

Freudenthal, P.S. & Steinmann, R.M.: The distinct surface of human blood dendritic cells, as observed after an improved isolation method. *PNAS* **87**: 7698-7702 (1990)

Rothelin, R. et al.: A human intercellular adhesion molecule (ICAM 1) distinct from LFA-1. *J. Immunol.* **137**: 1270 - 74 (1986)

Martlin, S.D. & Springer, T.A.: Purified Intercellular adhesion molecule 1 (ICAM 1) is a ligand for Lymphocyte Function-Associated Antigen 1 (LFA-1). *Cell* **51**: 813-19 (1987)

Springer, T.A.: Adhesion receptors of the immune system. *Nature* **346**: 425-34 (1990)

Shaw, S. et al.: *Leukocyte Typing V: White Cell Differentiation Antigens*. Oxford University Press (1994). S. Schlossmann et al. (eds.).

For *in vitro* research only. Caution: this product contains thimerosal, a poisonous and hazardous substance.