

CD54 (ICAM-1) Antibody

✓ 100 µl
(10 western blots)

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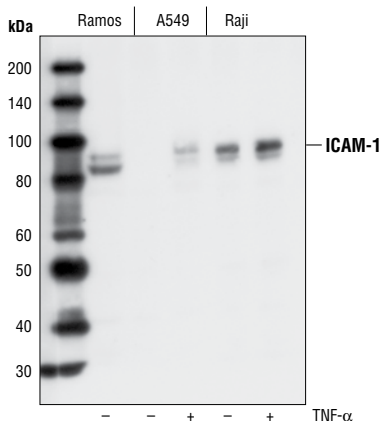
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IHC-P Endogenous	H	89, 92 kDa	Rabbit**

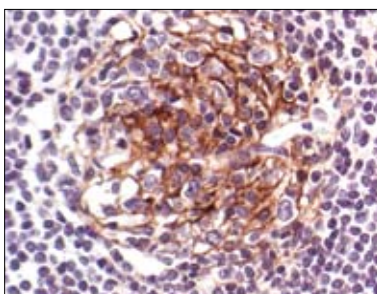
Background: Intercellular cell adhesion molecule-1 (CD54 or ICAM-1) is a cell surface glycoprotein that belongs to the immunoglobulin superfamily (IgSF) of adhesion molecules. CD54 is expressed at low levels in diverse cell types, and is induced by cytokines (TNF- α , interleukin-1) and bacterial lipopolysaccharide (1). Apical localization of CD54 on endothelial cells (or basolateral localization on epithelial cells) is a prerequisite for leukocyte trafficking through the endothelial (or epithelial) barrier (1). Apical expression of CD54 on epithelial cells mediates pathogen invasion as well as host defense, a pattern also observed in tumors (1). CD54 also functions as a co-stimulator on antigen presenting cells, binding to its receptor LFA-1 (leukocyte function-associated antigen-1) on the surface of T cells during antigen presentation (2). Cross-linking of CD54 or binding to its ligand triggers activation of Src family kinases and the Rho/ROCK pathway (3-7). Phosphorylation on Tyr485 of CD54 is required for its association with SHP-2 (5). SHP-2 seems essential for CD54-induced Src activation (7).

Specificity/Sensitivity: CD54 (ICAM-1) Antibody detects endogenous levels of total CD54 protein. The antibody does not cross-react with other IgSF adhesion molecules.

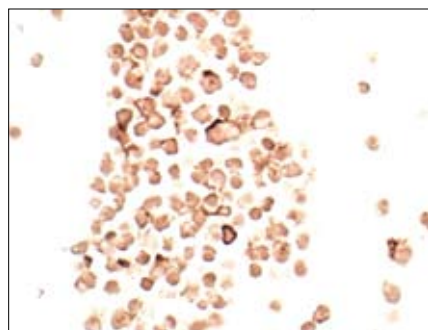
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues of human CD54. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from Ramos, A549 and Raji cells, untreated or TNF- α -treated, using CD54 (ICAM-1) Antibody.



Immunohistochemical analysis of paraffin-embedded human lymph node using CD54 (ICAM-1) Antibody in the presence of control peptide (upper) or antigen specific peptide (lower).



Immunohistochemical analysis of paraffin-embedded Raji cells using CD54 (ICAM-1) Antibody.

Entrez-Gene ID #3383
Swiss-Prot Acc. #P05362

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:25
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Background References:

- Hopkins, A.M. et al. (2004) *Adv. Drug Deliv. Rev.* 56, 763-778.
- Nishibori, M. et al. (2003) *J. Pharmacol. Sci.* 92, 7-12.
- Holland, J. and Owens, T. (1997) *J. Biol. Chem.* 272, 9108-9112.
- Etienne, S. et al. (1998) *J. Immunol.* 161, 5755-5761.
- Pluskota, E. et al. (2000) *J. Biol. Chem.* 275, 30029-30036.
- Muro, S. et al. (2003) *J. Cell Sci.* 116, 1599-1609.
- Wang, Q. et al. (2004) *J. Biol. Chem.* 278, 47731-47743.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.