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## CD54/ICAM-1 Antibody

**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 89, 92	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P05362	<b>Entrez-Gene Id:</b> 3383
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### Product Usage Information

#### Application

Western Blotting

#### Dilution

1:1000

### 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.

### Specificity/Sensitivity

CD54/ICAM-1 Antibody detects endogenous levels of total CD54 (ICAM-1) 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 (ICAM-1) protein. Antibodies are purified by protein A and peptide affinity chromatography.

### 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- $\alpha$ , 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).

### Background References

- Hopkins, A.M. et al. (2004) *Adv Drug Deliv Rev* 56, 763-78.
- Nishibori, M. et al. (2003) *J Pharmacol Sci* 92, 7-12.
- Holland, J. and Owens, T. (1997) *J Biol Chem* 272, 9108-12.
- Etienne, S. et al. (1998) *J Immunol* 161, 5755-61.
- Pluskota, E. et al. (2000) *J Biol Chem* 275, 30029-36.
- Muro, S. et al. (2003) *J Cell Sci* 116, 1599-609.
- Wang, Q. et al. (2003) *J Biol Chem* 278, 47731-43.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

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

### Applications Key

**W:** Western Blotting

### Cross-Reactivity Key

**H:** Human

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