CD54/ICAM-1 Antibody

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 bacteriallipopolysaccharide (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 (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.

Recommended Antibody Dilutions:
- Western blotting: 1:1000
- Immunohistochemistry (Paraffin): 1:25

Unmasking buffer: Citrate
Antibody diluent: SignalStain® Antibody Diluent #8112

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

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.

Applications: Western blotting

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