CD54 (ICAM-1) Monoclonal Antibody (HA58), Functional Grade, eBioscience™

Catalog Number 16-0549-82

**Details**

- **Size**: 100 µg
- **Host/Isotope**: Mouse / IgG1, kappa
- **Class**: Monoclonal
- **Type**: Antibody
- **Clone**: HA58
- **Conjugate**: Functional Grade
- **Form**: Liquid
- **Concentration**: 1 mg/mL
- **Purification**: Affinity chromatography
- **Storage buffer**: PBS, pH 7.2
- **Contains**: no preservative
- **Storage Conditions**: 4°C

**Species Reactivity**

- **Species reactivity**: Human
- **Published species**: Human, Not Applicable

**Tested Applications**

- **Flow Cytometry (Flow)**: Assay-Dependent
- **Functional Assay (FN)**: Assay-Dependent
- **Neutralization (Neu)**: Assay-Dependent

**Published Applications**

- **Flow Cytometry (Flow)**: See 1 publications below
- **Miscellaneous PubMed (Misc)**: See 1 publications below
- **Immunohistochemistry (IHC)**: See 1 publications below
- **Inhibition Assays (IA)**: See 1 publications below

*Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

**Description**

The HA58 monoclonal antibody reacts with human CD54 (InterCellular Adhesion Molecule-1, ICAM-1), a 90-110 kDa transmembrane glycoprotein expressed by monocytes, lymphocytes and endothelial cells. Expression of CD54 is upregulated on activated lymphocytes. Interaction of CD54 with its ligand CD11a is important in the inflammatory response. Applications Reported: The HA58 antibody has been reported for use in flow cytometric analysis. HA58 has also been reported in blocking of in vitro mixed lymphocyte reaction. Applications Tested: The HA58 antibody has been tested by flow cytometric analysis of normal human peripheral blood cells. This can be used at less than or equal to 0.25 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest. Storage and handling: Use in a sterile environment. Filtration: 0.2 µm post-manufacturing filtered. Purity: Greater than 90%, as determined by SDS-PAGE. Endotoxin Level: Less than 0.001 ng/µg antibody, as determined by LAL assay. Aggregation: Less than 10%, as determined by HPLC.

**Background/Target Information**

ICAM-1 (CD54) is an 85-110 kDa single-chain type 1 integral membrane glycoprotein with an extracellular domain of five immunoglobulin superfamily repeats, a transmembrane region and a cytoplasmic domain. ICAM-1 has 7 potential N-linked glycosylation sites and shares considerable amino acid sequence homology with ICAM-3 (CD50) and ICAM-2 (CD102). ICAM-1 binds to integrins of type CD11a/CD18 (leukocyte adhesion molecule, LFA-1), or CD11b/CD18 (Mac-1) and is exploited by Rhinovirus as a receptor. ICAM-1 is expressed by activated endothelial cells and detected on epithelial cells, fibroblasts, chondrocytes, B lymphocytes, T lymphocytes (low), monocytes, macrophages, dendritic cells and neutrophils, with lower levels that increase upon inflammation. ICAM-1 is also detected in some carcinoma and melanoma cells. Soluble ICAM-1 is detectable in the plasma and is elevated in patients with various inflammatory syndromes.

CD54 (ICAM-1) Antibody (16-0549-82) in Flow
Staining of normal human peripheral blood cells with Anti-Human CD54 (ICAM-1) PE. Appropriate isotype controls were used (open histogram). Cells in the lymphocyte population were used for analysis.

CD54 (ICAM-1) Antibody (16-0549-82)
Antibody clone (HA58) specificity was demonstrated by CRISPR-Cas9 mediated knockout of target protein. Loss of signal was observed for target protein in CD54 KO cells (blue histogram) compared to the control Cas9 cells (pink histogram) using CD54 antibody (HA58). Yellow histogram represents staining with the isotype control. (KO)
### PubMed References For CD54 (ICAM-1) Monoclonal Antibody (HA58), Functional Grade, eBioscience™

#### 1 Flow Cytometry References

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<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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<tbody>
<tr>
<td>Human / Not Cited</td>
<td>16-0549 was used in Flow cytometry/Cell sorting to show intravenously administered embryonic mesenchymal stem cells differentiated into neuronal and endothelial cells, and were neuroprotective in transient focal cerebral ischemia.</td>
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#### 1 Miscellaneous PubMed References

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Human / Not Cited</td>
<td>16-0549 was used in Immuno-assay to study the strength of ligand and cell-surface receptor interactions in a model system.</td>
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#### 1 Immunohistochemistry References

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#### 1 Inhibition Assays References

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<tbody>
<tr>
<td>Human / Not Cited</td>
<td>16-0549 was used in Blocking experiments to study how mycobacterium tuberculosis-induced gamma interferon production by natural killer cells requires cross talk with antigen-presenting cells involving Toll-like receptors 2 and 4 and the mannose receptor in tuberculous pleurisy.</td>
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