



## RayBiotech, Inc.

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# Certificate of Analysis and Data Sheet

## Mouse Anti-Rat CD54

### With HRP-conjugated Secondary Antibody

**Catalog No.**  
DS-MB-00820

**Species**  
Human

**Isotype**  
IgG1

### **Preparation**

**Synonyms:** ICAM-1

**Immunogen:** Rat Ax cells (a HEV derived cell line)

**Fusion Partners:** Spleen cells from immunized BALB/c mice were fused with cells from the PAI mouse myeloma cell line.

**Purification:** Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

### **Specificity**

DS-MB-00820 recognizes the rat CD54 cell surface antigen, also known as intercellular adhesion molecule-1 (ICAM-1), a 90kD adhesion molecule belonging to the immunoglobulin superfamily. CD54 is a cell surface ligand of the lymphocyte integrin, LFA-1 and is known to play an important role in various cell-cell interactions in the immune system. Recent studies suggest that cross-linking of ICAM-1 using clone DS-MB-00820 induces calcium signalling (4).

Functionally DS-MB-00820 inhibits homotypic aggregation of PHA blasts.

### **Formulation**

**Product Type:** Monoclonal Antibody

**Product Form:** Purified IgG - liquid

**Buffer Solution:** Phosphate buffered saline pH7.4

**Preservative Stabilizers:** 0.09% Sodium Azide (NaN<sub>3</sub>)

**Approx. Protein Concentrations:** IgG concentration 1.0 mg/ml

### **Storage**

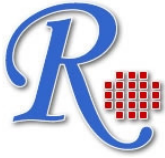
Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

**Shelf Life:** 18 months from date of dispatch.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### Applications

**Table Summary of antibody applications and working conditions**

<b>Options</b> <b>Functions</b>	<b>YES</b>	<b>NO</b>	<b>Not determined</b>	<b>Recommended Work dilution or concentration</b>
Flow Cytometry(1)	•			1:25 – 1:50
Immunohistology - Frozen	•			
Immunohistology - Paraffin(2)	•			
Immunohistology - Resin			•	
Immunoprecipitation	•			

**Note: Other applications are not tested yet. Optimal dilutions should be determined.**

**(1) Use 10ul of the suggested working dilution to label  $10^6$  cells in 100ul.**

**(2) This product requires antigen retrieval using heat treatment prior to staining of paraffin sections.**

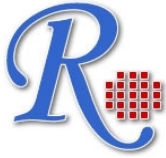
### Secondary Antibody Applications

<b>Options</b> <b>Functions</b>	<b>YES</b>	<b>NO</b>	<b>Not determined</b>	<b>Recommended Work dilution or concentration</b>
Immunoassay (ELISA, Western blot)	•			1:5,000-1:10,000

### Reference

1. Tamatani, T & Miyasaka, M. (1990) Identification of monoclonal antibodies reactive with the rat homolog of ICAM-1, and evidence for a differential involvement of ICAM-1 in the adherence of resting versus activated lymphocytes to high endothelial cells. *Int. Immunol.* 2: 165-171.
2. Tamatani, T. et al. (1991) Molecular mechanisms underlying lymphocyte recirculation. II. Differential regulation of LFA-1 in interaction between lymphocytes and high endothelial cells. *Eur. J. Immunol.* 21: 855-858.
3. Etienne, S. et al. (1998) ICAM-1 signalling pathways associated with Rho activation in microvascular brain endothelial cells. *J. Immunol.* 161: 5755-5761.
4. Etienne, S. et al. (2000) ICAM-1-coupled cytoskeletal rearrangements and transendothelial lymphocyte migration involve intracellular calcium signaling in brain endothelial cell lines. *J. Immunol.* 165: 3375-3383.

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5. McKechnie, N. M. et al. (2002) Antigenic mimicry: *Onchocerca volvulus* antigen-specific T cells and ocular inflammation. *Invest Ophthalmol Vis Sci.* 43:411-8.
6. Azcutia, V. et al. (2010) Inflammation determines the pro-adhesive properties of high extracellular d-glucose in human endothelial cells in vitro and rat microvessels in vivo. *PLoS One* 5: e10091

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