

DESCRIPTION

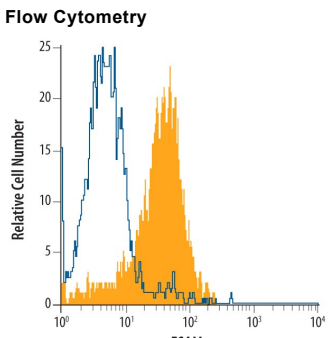
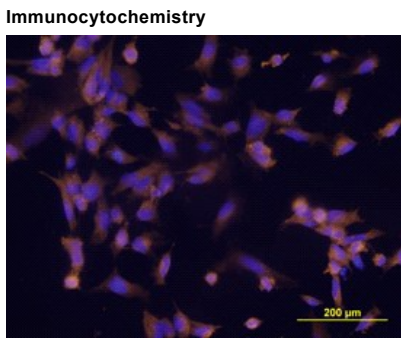
Species Reactivity	Human
Specificity	Detects human ESAM in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse ESAM is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 408519
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human ESAM Gln30-Ala247 Accession # Q96AP7
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Immunocytochemistry	8-25 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

<p>Flow Cytometry</p>  <p>Detection of ESAM in HUVEC Human Cells by Flow Cytometry. HUVEC human umbilical vein endothelial cells were stained with Mouse Anti-Human ESAM Monoclonal Antibody (Catalog # MAB4204, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG F(ab')₂ Secondary Antibody (Catalog # F0102B).</p>	<p>Immunocytochemistry</p>  <p>ESAM in HUVEC Human Cells. ESAM was detected in immersion fixed HUVEC human umbilical vein endothelial cells using Mouse Anti-Human ESAM Monoclonal Antibody (Catalog # MAB4204) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (yellow; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Endothelial cell-selective adhesion molecule (ESAM) is a 55 kDa type I transmembrane glycoprotein that belongs to the JAM family of immunoglobulin superfamily molecules (1, 2). Human ESAM is synthesized as a 390 amino acid (aa) protein composed of a 29 aa signal peptide, a 216 aa extracellular region, a putative 26 aa transmembrane segment, and a 119 aa cytoplasmic domain. The extracellular region contains one V-type and one C2-type Ig domain and is involved in homophilic adhesion (1). In the cytoplasmic domain, there is a docking site for the multifunctional adaptor protein MAGI-1 (3). The extracellular region of human ESAM shows 90%, 74%, 69%, and 67% aa identity with monkey, canine, mouse, and rat extracellular ESAM, respectively. ESAM is expressed on endothelial cells, activated platelets, and megakaryocytes and can be found associated with cell-to-cell junctions. Whether ESAM is restricted to a particular junctional type is not clear (1, 2). ESAM deficient mice have no defect in vascularization but do have reduced angiogenic potential. This may be due to a decreased migratory response to FGF-2 (4).

References:

1. Hirata, K-I. *et al.* (2001) *J. Biol. Chem.* **276**:16223.
2. Nasdala, I. *et al.* (2002) *J. Biol. Chem.* **277**:16294.
3. Wegmann, F. *et al.* (2004) *Exp. Cell Res.* **300**:121.
4. Ishida, T. *et al.* (2003) *J. Biol. Chem.* **278**:34598.