

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ESAM in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse ESAM is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
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.

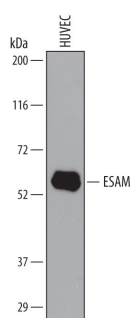
APPLICATIONS

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
Western Blot	1 µg/mL	See Below
Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human kidney and liver
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

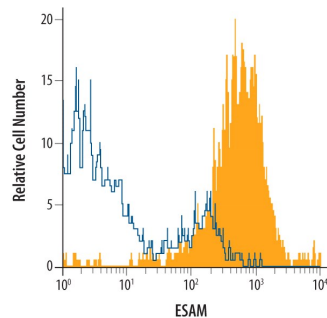
DATA

Western Blot



Detection of Human ESAM by Western Blot. Western blot shows lysates of HUVEC human umbilical vein endothelial cells. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human ESAM Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2688) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for ESAM at approximately 55 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of ESAM in HUVEC Human Cells by Flow Cytometry. HUVEC human umbilical vein endothelial cells were stained with Goat Anti-Human ESAM Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2688, filled histogram) or control antibody (Catalog # AB-108-C, open histogram), followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0107).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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.