

**AP60002PU-L****Polyclonal Antibody to ESM1 - Purified****Alternate names:**

Endocan, Endothelial cell-specific molecule 1

**Quantity:**

0.2 mg

**Background:**

Endocan, also known as endothelial cell-specific molecule1 (ESM1), is a secreted cysteine-rich dermatan sulfate (DS) proteoglycan primarily expressed by endothelial cells within the vascular capillary network in kidney and in the alveolar walls of the lung. Endocan expression has also been detected in different epithelia and in adipocytes. The expression of endocan is up-regulated by TNF $\alpha$ , IL1 $\beta$  or lipopolysaccharide and down-regulated by IFN $\gamma$ . The mouse Endocan gene encodes a 184 amino acid (aa) residues precursor protein with a 19 aa hydrophobic signal peptide and a 165 aa mature region with 18 Cysteine residues. The DS chain is covalently attached to serine 137. Endocan has been shown to bind CD11a/CD18 integrin (also known as lymphocyte function-associated antigen1, LFA1) on human lymphocytes, monocytes and Jurkat cells, inhibiting its binding to ICAM1 and reducing LFA1mediated leukocyte activation. Endocan binds via its DS chain to hepatocyte growth factor (HGF) to enhance HGF mitogenic activity. Genetically engineered cells overexpressing Endocan has been shown to induce tumor formation, suggesting that Endocan may be involved in the pathophysiology of tumor growth in vivo. Circulating Endocan can be detected in the serum from healthy subjects.

**Uniprot ID:**[Q9NQ30](#)**NCBI:**[NP\\_008967.1](#)**GeneID:**[11082](#)**Host / Isotype:**

Rabbit / IgG

**Immunogen:**Highly pure (>95%) recombinant human Endocan/ESM1 (Trp19-Arg184) derived from *E. coli***Format:****State:** Lyophilized purified Ig fraction**Purification:** Protein A chromatography**Buffer System:** 5 mM PBS, pH 7.2**Reconstitution:** Centrifuge vial prior to opening. Restore in sterile water to a concentration of 0.1-1.0 mg/ml.**Applications:****Western blot:** 1-5  $\mu$ g/ml.**Immunofluorescence:** 1/200.**Immunohistochemistry on Frozen sections:** 1:200.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**Specificity:**

This antibody detects Endocan / ESM1.

**Species Reactivity:****Tested:** Human.

**Storage:**

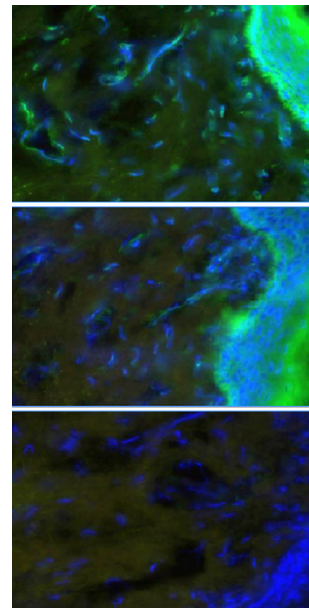
Prior to reconstitution store at 2-8°C.  
Following reconstitution store undiluted at 2-8°C for one month  
or (in aliquots) at -20°C for longer.  
Avoid repeated freezing and thawing.  
Shelf life: one year from despatch.

**General Readings:**

1. Lassalle P, Molet S, Janin A, Heyden JV, Tavernier J, Fiers W, et al. ESM-1 is a novel human endothelial cell-specific molecule expressed in lung and regulated by cytokines. *J Biol Chem.* 1996 Aug 23;271(34):20458-64. PubMed PMID: 8702785.
2. Bechard D, Meignin V, Scherpereel A, Oudin S, Kervoaze G, Bertheau P, et al. Characterization of the secreted form of endothelial-cell-specific molecule 1 by specific monoclonal antibodies. *J Vasc Res.* 2000 Sep-Oct;37(5):417-25. PubMed PMID: 11025405.
3. Wellner M, Herse F, Janke J, Gorzelnik K, Engeli S, Bechart D, et al. Endothelial cell specific molecule-1--a newly identified protein in adipocytes. *Horm Metab Res.* 2003 Apr;35(4):217-21. PubMed PMID: 12778364.
4. Bécharde D, Gentina T, Delehedde M, Scherpereel A, Lyon M, Aumercier M, et al. Endocan is a novel chondroitin sulfate/dermatan sulfate proteoglycan that promotes hepatocyte growth factor/scatter factor mitogenic activity. *J Biol Chem.* 2001 Dec 21;276(51):48341-9. Epub 2001 Oct 5. PubMed PMID: 11590178.
5. Bécharde D, Scherpereel A, Hammad H, Gentina T, Tscopoulos A, Aumercier M, et al. Human endothelial-cell specific molecule-1 binds directly to the integrin CD11a/CD18 (LFA-1) and blocks binding to intercellular adhesion molecule-1. *J Immunol.* 2001 Sep 15;167(6):3099-106. PubMed PMID: 11544294.
6. Scherpereel A, Gentina T, Grigoriu B, Sénéchal S, Janin A, Tscopoulos A, et al. Overexpression of endocan induces tumor formation. *Cancer Res.* 2003 Sep 15;63(18):6084-9. PubMed PMID: 14522939.

**Pictures:**

Immunofluorescence staining of cryosections of unfixed human foreskin with anti-human Endocan/EMS1 Cat.-No. AP60002PU-N (dilution 1/100) and counter staining of nuclei with DAPI.<br />&gt;Note specific green Endocan/ESM1 signals in epidermis, connective tissue cells and vessels.<br /><em>The experiment was performed by the research group of Prof. Dr. J. Wilting and Dr. K. Buttler, University Medicine Göttingen, Germany.</em>



Western analysis of anti-human Endocan/ESM1 Cat.-No. AP60002PU-N. Samples were loaded in 15% SDS-polyacrylamide gel under reducing conditions.

Lane 1: MWM (kDa),  
Lane 2: rh ESM1,  
Lane 3: rm ESM1.

