



Recombinant Mouse Endocan/ESM-1

20171211BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	M30-062
Size:	50 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	<i>ESM1</i>
Synonyms:	Endothelial cell-specific molecule-1, endocan

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 α , IL1 β or lipopolysaccharide and down-regulated by IFN γ . The human 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. In patients with lung cancer or acute and severe sepsis, elevated Endocan concentrations have been reported.

References

1. Lassalle P et al, J Biol Chem 271:20458, 1996
2. Bechard D et al, J Vasc Res 37:417, 2000
3. Wellner M et al, Horm Metab Res 35:217, 2003
4. Bechard D et al, J Biol Chem 276:48341, 2001
5. Bechard D et al, J Immunol 167:3099, 2001
6. Scherpereel A et al, Cancer Res 63:6084, 2003

Sequence

WSAKYAVDCPEHCDKTECRSSLRCKRTVLDDCGCCQVCAAGPGETCYRTVS
GMDGVKCGPGLKCHFYSEEDDFGDEFGICKDCPYGTFGMECKETCNCQSGI
CDRVTRCLDFPPFQYAAAKSPRTSASHTERDSASGDGNVREIEIGEGNA
ARPSVMKWLNPRTRHHHHHHH

Database references

Protein RefSeq:	NP_076101.1
Uniprot ID:	Q9QYY7
mRNA RefSeq:	NM_023612.3

Product Specifications

Expressed in	Insect cells
Purity	>95% by SDS-PAGE and Silver staining
Buffer	water
Stabilizer	None
Formulation	lyophilized
Length (aa):	173
MW:	19.07 kDa
N-terminal seq	WSAKYAVD

Stability: The lyophilized mouse Endocan/ESM-1, though stable at room temperature, is best stored desiccated below 0°C.

Reconstitution: Mouse Endocan/ESM-1 should be reconstituted in water to a concentration of 0.1 mg/ml. This solution can be diluted in water or other buffer solutions or stored at -20°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Not tested so far.



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Handling/Applications

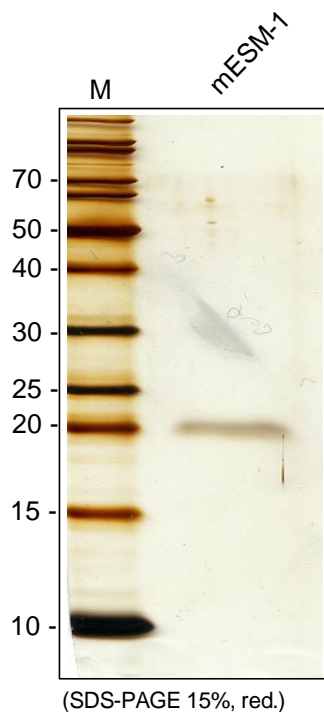


Fig. 1: SDS-PAGE analysis of recombinant mouse Endocan/ESM1 derived from insect cells. Sample was loaded in 15% SDS-polyacrylamide gel under reducing conditions and stained with Silver stain.