

Endothelial Cell Specific Molecule 1 (ESM1) Active Protein | ESM1 active protein

Active Endothelial Cell Specific Molecule 1 (ESM1)

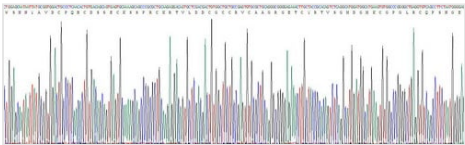
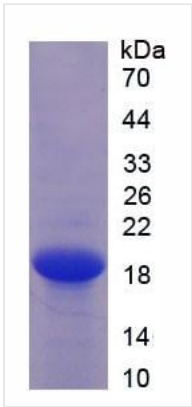
CATALOG # AAA148202	HOST E. coli	REACTIVITY Homo sapiens (Human)	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Endothelial Cell Specific Molecule 1 (ESM1); Active Endothelial Cell Specific Molecule 1 (ESM1); Endocan; ESM1 active protein

PRODUCT SPECIFICATIONS

Host	E. coli
Reactivity	Homo sapiens (Human)
Purity/Purification	>92%
Form/Format	PBS, pH7.4, containing 0.01% SKL, 5% Trehalose
Concentration	Original Concentration: 1000ug/mL (varies by lot)
Applicable Applications for ESM1 active protein	Activity Assay, Cell Culture
Source	Prokaryotic expression
Residues	Trp20~Arg184
Tags	N-terminal His-tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method).
Predicted isoelectric point	6.7
Phenomenon Explanation	The possible reasons that the actual band size differs from the predicted are as follows: 1. Splice variants: Alternative splicing may create different sized proteins from the same gene. 2. Relative charge: The composition of amino acids may affects the charge of the protein. 3. Post-translational modification: Phosphorylation, glycosylation, methylation etc. 4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form. 5. Polymerization of the target protein: Dimerization, multimerization etc.
Usage	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Preparation and Storage	Storage: Avoid repeated freeze/thaw cycles. Store at 2-8 degree C for one month. Aliquot and store at -80 degree C for 12 months. Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 degree C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.



Gene Sequencing
Gene Sequencing (extract)

SDS_PAGE

Sample: Active recombinant ESM1, Human

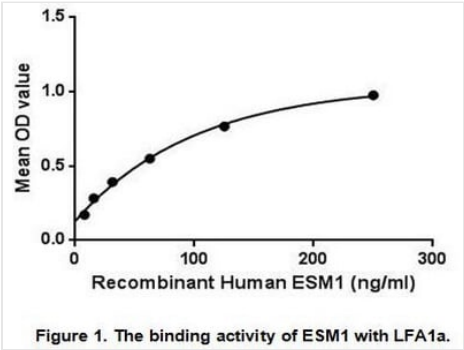


Figure 1. The binding activity of ESM1 with LFA1a.

W SNNYAVDCPQ HCDSECKSS PRCKRTVLDD
CGCCRVCAAG RGETCYRTVS GMDGMKCGPG LRCQPSNGED PFGEFGICK
DCPYGTFGMD CRETCNCQSG ICDRGTGKCL KFPFFQYSVT KSSNRFVSLT
EHDMSGDGN IVREEVVKEN AAGSPVMRKW LNPR

Sequence

Bioactivity

Endothelial cell-specific molecule 1 (ESM1) is a proteoglycan secreted by endothelial cells (primarily in the human lung and kidney tissues) and its mRNA expression is regulated by inflammatory cytokines. Endocan expression, which detected in various epithelia and adipocytes has been shown to be upregulated by vascular endothelial growth factor (VEGF), fibroblast growth factor 2 (FGF-2), TNF alpha, IL1 beta, or lipopolysaccharide and downregulated by IFN gamma. Genetically engineered cells overexpressing ESM1 induce tumor formation, implying that ESM1 might be involved in the pathophysiology of tumor growth in vivo. Besides, Lymphocyte Function Associated Antigen 1 Alpha (LFA1a) has been identified as an interactor of ESM1, thus a binding ELISA assay was conducted to detect the interaction of recombinant human ESM1 and recombinant human LFA1a. Briefly, ESM1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to LFA1a-coated microtiter wells and incubated for 2h at 37 degree C. Wells were washed with PBST and incubated for 1h with anti- ESM1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 degree C. Finally, add 50uL stop solution to the wells and read at 450nm immediately. The binding activity of of ESM1 and LFA1a was shown in Figure 1, and this effect was in a dose dependent manner.

ADDITIONAL INFORMATION

Product Categories/Family for ESM1 active protein	Metabolic pathway; Tumor immunity; Infection immunity; Cardiovascular biology
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NCBI AND UNIPROT INFORMATION

NCBI GI #	208022668
NCBI GeneID	11082
NCBI Accession #	NP_001129076.1
NCBI GenBank Nucleotide #	NM_001135604.1

UniProt Accession #	Q9NQ30 ; Q15330 ; Q3V4E3 ; Q96ES3 ; B2R4G3
Molecular Weight	Predicted Molecular Mass: 19.4kDa Accurate Molecular Mass: 19&44kDa as determined by SDS-PAGE reducing conditions.
NCBI Official Full Name	endothelial cell-specific molecule 1 isoform b
NCBI Official Synonym Full Names	endothelial cell specific molecule 1
NCBI Official Symbol	ESM1
NCBI Official Synonym Symbols	endocan
NCBI Protein Information	endothelial cell-specific molecule 1
UniProt Protein Name	Endothelial cell-specific molecule 1
UniProt Gene Name	ESM1
UniProt Synonym Gene Names	ESM-1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-homo-sapiens-human-active-protein/endothelial-cell-specific-molecule-1-esm1/148202>