



**LD Biopharma, Inc.**  
6042 Cornerstone CT. W. Suite E  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human ESM1 Protein  
**Catalog Number:** hRP-1138  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human endothelial cell-specific molecule 1 (ESM1) gene encodes a secreted protein, which is mainly expressed in the endothelial cells in human lung and kidney tissues. The expression of this gene is regulated by cytokines, suggesting that it may play a role in endothelium-dependent pathological disorders. The transcript contains multiple polyadenylation and mRNA instability signals. Two transcript variants encoding different isoforms have been found for this gene.

Full-length mature form of human ESM1 gene cDNA (19 - 184aa, Isoform-I, derived from BC011989) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

<b>Gene Symbol:</b>	ESM1	(endocan)
<b>Accession Number:</b>	NP_008967	
<b>Species:</b>	Human	
<b>Size:</b>	50 µg / Vial	
<b>Composition:</b>	1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.	
<b>Storage:</b>	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.	

### Key References

Roudnicky,F., et al., *Endocan is upregulated on tumor vessels in invasive bladder cancer where it mediates VEGF-A-induced angiogenesis.* Cancer Res. 73 (3), 1097-1106 (2013)



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Kim, J.H., et al., *Expression of endothelial cell-specific molecule-1 regulated by hypoxia inducible factor-1alpha in human colon carcinoma: impact of ESM-1 on prognosis and its correlation with clinicopathological features.* *Oncol. Rep.* 28 (5), 1701-1708 (2012)

Kang, Y.H., et al., *ESM-1 regulates cell growth and metastatic process through activation of NF-kappaB in colorectal cancer.* *Cell. Signal.* 24 (10), 1940-1949 (2012)

## **Applications**

1. May be used for in vitro ESM1 mediated endothelial cell differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as EMS1 protein-protein interaction assay.
3. As enzymatic substrate for various proteases.
4. Potential biomarker protein for cancer diagnosis, such as for human lung cancer and renal clear cell carcinoma. MSE1 may also be a potential parameter to monitor the tumor response to anti-angiogenic
5. As antigen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHGNLYFQGGEFWSNNYAVDCPQHCDSSSECKSSPRCERTVLDDCGCC  
RVCAAGRGETCYRTVSGMDGMKCGPGLRCQPSNGEDPFGEFGICKDCPYGTFGMDCRETCNCQ  
SGICDRGTGKCLKFPFFQYSVTKSSNRFVSLTEHDMASGDGNIVREEVVKENAAGSPVMRKWLN  
PR