



# Human Endocan Standard (50 kDa)

## Lyophilized Human Endocan

### Essential Notes

**Cat. Number :** LIP-1101

**Biomolecule :** endocan

**Formulation :** Lyophilized from a solution without protein carrier

**Storage :** +4°C

**Applications :** ELISA

FOR RESEARCH USE ONLY

### Description

Endocan also called endothelial cell specific molecule-1 (ESM-1) is a proteoglycan secreted by endothelial cells, and up-regulated by proangiogenic factors (VEGF, FGF-2) and pro-inflammatory cytokines (TNF- $\alpha$ , IL-1). Endocan plays a role in the angiogenesis and neovessel formation in association with VEGF, in the control of inflammation by inhibiting the leukocyte diapedesis, and in the regulation of the cellular proliferation by regulating growth factor activities through its glycan.

### Source

The recombinant human endocan / ESM-1 is produced by a HEK293 cell line overexpressing human endocan, obtained by transformation of HEK293 cells with cDNA encoding for human endocan. Recombinant endocan was purified by ion exchange chromatography followed by affinity chromatography using a monoclonal anti-human endocan antibody.

### Molecular Mass

As a result of post-translational modification, human endocan / ESM-1 is secreted as a 50 kDa proteoglycan.

### Formulation

Lyophilized from a solution without protein carrier.

### Reconstitution

Reconstitute at 100 ng/mL in PBS containing at least 0.1% bovine serum albumin. We recommend to reconstitute the lyophilized human endocan standard with 1X Buffer B (LIM-1201).

### Storage

Upon reception, store at +4°C.

After reconstitution, store at -20 to -80°C and avoid repeated freeze-thaw cycles.

### Applications

**ELISA :** Can be used for the quantification of human endocan in serum, plasma or culture supernatant as a standard.

## ■ Bibliography related to endocan

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## ■ Background

Endocan, also known as endothelial cell-specific molecule (ESM-1), was originally discovered by Lassalle and collaborators in endothelial cells. Structurally, endocan is a dermatan sulfate proteoglycan of 50 kDa that is freely circulating in blood. Endocan binds CD11a/CD18 integrin (also called LFA-1 for Leukocyte Function-associated Antigen-1) on human leukocytes inhibiting consequently its binding to ICAM-1 and transendothelial migration. Moreover, endocan has been recently described as a biomarker of tip cells and neoangiogenesis. The expression of endocan is upregulated by pro-inflammatory molecules such as tumor necrosis factor alpha, and pro-angiogenic molecules such as vascular endothelial growth factor and fibroblast growth factor 2. Endocan binds via its dermatan sulfate chain to hepatocyte growth factor/ scatter factor. Endocan appears as a pertinent biomarker of endothelial dysfunction.

## ■ Companion products

- DIYEK H1 (Do It Yourself Elisa Kit for Human Endocan quantification) : [LIK-1101](#)
- DIYEK C1 (Do It Yourself Elisa Kit for human Endocan and Cathepsin G-cleaved Endocan) : [LIK-1501](#)
- JDIEK H1 (Just Do It Elisa Kit for Human Endocan quantification) : [LIK-1201](#)

**Not intended for use as a therapeutic agents or in diagnostic procedures. Not for use in humans or animals.**