Anti-human Endocan/ESM-1 monoclonal antibody

Clone MEP21 (N-Terminal)

Essential Notes

Cat. Number : LIA-0902

Clone : MEP21

Concentration : 1 mg/mL

Size : 100 µg

Formulation : PBS pH 7.4

Storage : -20°C

Immunogen : *E. Coli* derived C-Ter peptide (60-165)

Specificity : human endocan

Source : mouse

Ig isotype : IgG2a, K

Applications : WB

FOR RESEARCH USE ONLY

Preparation/Source

Endocan/ESM-1 is a 165 amino acide peptide that carries a dermatan sulfate chain. Anti-endocan/ESM-1 antibodies clone MEP21 were produced from a hybridoma resulting from the fusion of mouse myeloma Sp2/0 cells with B cells obtained from mouse immunized with a E. Coli derived C-terminal peptide (60-165) from recombinant human endocan (Lassalle et al. 1996; Bechard et al. 2000). They were purified by protein A affinity chromatography.

Formulation

Solution in phosphate buffer saline 1x, pH 7.4

Concentration

The concentration of MEP21 was 1 mg/mL as determined by measurement of protein and mouse IgG concentration.

Purity

Purity > 90%, as determined by SDS-PAGE and as visualized by silver staining.

Specificity

Specificity is determined by ability to recognize human endocan but not to cross-react with mouse or rat endocan.

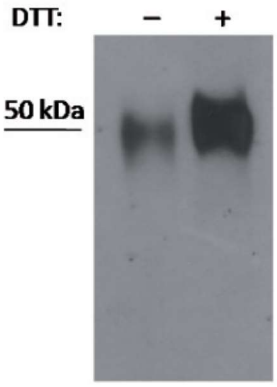
Storage

Samples in PBS can be easily aliquoted. They can be stored frozen from -20°C to -80°C. Avoid repeated freeze-thaw cycles.

Applications

Western blot (WB) : The anti-human endocan/ESM-1 antibody clone MEP21 is recommended to detect human endocan after electrophoresis and immunoblotting. Recommended working dilutions were determined to be 1 µg/mL. Optimal dilutions should be determined according sample origins.

Other : to be determined.



Immunodetection using the anti-endocan/ESM-1 clone MEP21 of the 50 kDa recombinant human endocan (LIP-1101) in reduced (DTT+) or not reduced (DTT-) conditions (DTT: Dithiothreitol).

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Bibliography related to Endocan

- Gaudet A, et al. Cleaved endocan acts as a biologic competitor of endocan in the control of ICAM-1-dependent leukocyte diapedesis. J Leukoc Biol. 2020 May;107(5):833-841.
- Gaudet A, et al. Decrease of the plasmatic endocan cleavage ratio is associated with the hyperinflammatory phenotype of acute respiratory distress syndrome. Crit Care. 2019 Jul 11;23(1):252.
- Gaudet A, et al. Endocan regulates acute lung inflammation through control of leukocyte diapedesis. J Appl Physiol (1985). 2019 Sep 1;127(3):668-678.
- Ying J, Zhou D, Gu T, Huang J. Endocan, a Risk Factor for Developing Acute Respiratory Distress Syndrome among Severe Pneumonia Patients. Can Respir J. 2019 Apr 1;2019:2476845.
- Gaudet A, et al. Parmentier E, De Freitas Caires N, Portier L, Dubucquoi S, Poissy J, Duburcq T, Hureau M, Lassalle P, Mathieu D. Impact of acute renal failure on plasmatic levels of cleaved endocan. Crit Care. 2019 Feb 19;23(1):55
- De Freitas Caires N, et al. Endocan, sepsis, pneumonia, and acute respiratory distress syndrome. Crit Care. 2018 Oct 26;22(1):280.
- Yassine H, et al. The non-glycanated endocan polypeptide slows tumor growth by inducing stromal inflammatory reaction. Oncotarget. 2015 Feb 20;6(5):2725-35.
- De Freitas Caires N, et al. Identification of a 14 kDa endocan fragment generated by cathepsin G, a novel circulating biomarker in patients with sepsis. J Pharm Biomed Anal. 2013 May 5;78-79:45-51.
- Depontieu F, et al. Development of monoclonal antibodies and ELISA specific for the mouse vascular endocan. J Immunol Methods. 2012 Apr 30;378(1-2):88-94.
- Depontieu F, et al. Loss of Endocan tumorigenic properties after alternative splicing of exon 2. BMC Cancer. 2008 Jan 18;8:14.
- Bechard D, 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.

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

- Anti-human endocan/ESM-1 mAb (N-ter) ; clone MEP08 : **LIA-0901**
- Anti-murine endocan/ESM-1 mAb (C-ter) ; clone MEP19 : **LIA-1003**
- Anti-human endocan/ESM-1 mAb (C-ter) ; clone MEP14 : **LIA-1001**
- Human recombinant endocan/ESM-1 (50 kDa) : **LIP-1001**
- DIYEK H1 (Do It Yourself Elisa Kit for Human Endocan quantification) : **LIK-1101**
- 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.

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