Anti-Human Endocan/ESM-1 Monoclonal Antibody

Clone MEP19 (C-Ter)

Essential Notes

Cat. Number : LIA-1003S

Clone : MEP19

Size : 20 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 : IgG1

Applications : IP

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 MEP19 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 G affinity chromatography.

Formulation

Solution in phosphate buffer saline 1x, pH 7.4

Concentration

The concentration of MEP19 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 & Bioactivity

Specificity is determined by ability to recognize **human endocan.**

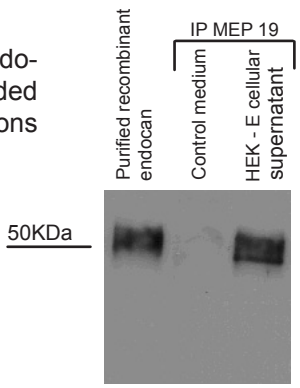
Storage

Antibody can be stored at 2°C - 8°C for 6 months without loss of activity. They can be easily aliquoted and stored frozen from -20°C to -80°C for long term storage. Avoid repeated freeze-thaw cycles.

Applications

Immunoprecipitation (IP) : The anti-human endocan/ESM-1 antibody clone MEP19 is recommanded for immunoprecipitation application. Optimal dilutions should be determined according sample origins.

Other : to be determined.



Immunoprecipitation using the anti-endocan antibody clone MEP19 of the 50 kDa recombinant human endocan.
HEK - E = supernatant of HEK expressing endocan

Bibliography related to MEP19 Antibody Applications

Bechard et al. (2000) Characterization of the secreted form of ESM-1 by specific monoclonal antibodies. *J. Vasc. Res.* 37:417-425.
Bechard et al. (2001a) Endocan is a novel CS/DS proteoglycan that promotes HGF/SF mitogenic activity. *J. Biol. Chem*. 276:48341-48349.

BACKGROUND

Endocan, also known as endothelial cell-specific molecule (ESM-1), was originally discovered by Lassalle and collaborators in endothelial cells (Lassalle et al. 1996). Structurally, endocan is a dermatan sulfate proteoglycan of 50 kDa that is freely circulating in blood (Bechard et al. 2001a; Sarrazin et al. 2010a). 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 (Bechard et al. 2001b). Moreover, endocan has been recently described as a biomarker of tip cells and neoangiogenesis (Sarrazin et al. 2010b). The expression of endocan is upregulated by pro-inflammatory molecules such as tumor necrosis factor alpha (TNFα), and pro-angiogenic molecules such as vascular endothelial growth factor (VEGF) and fibroblast growth factor 2 (FGF-2) (Grigoriu et al. 2006; Sarrazin et al. 2006; Maurage et al. 2009). Endocan binds via its dermatan sulfate chain to hepatocyte growth factor/scatter factor (HGF/SF) (Bechard et al. 2001a; Sarrazin et al. 2010b). Elevated blood levels of endocan has been reported in patients with lung and kidney cancers as well as in patients with severe sepsis (Bechard et al. 2001b; Scherpereel et al. 2003; Grigoriu et al. 2006; Scherpereel et al. 2006; Sarrazin et al. 2010b; Leroy et al. 2010). Endocan appears as a pertinent biomarker of endothelial dysfunction (Sarrazin et al. 2010b).

Endocan Background Bibliography

Abid et al. (2006) Vascular endocan is preferentially expressed in tumor endothelium. *Microvasc. Res*. 72:136-145.
Bechard et al. (2001a) Endocan is a novel CS/DS proteoglycan that promotes HGF/SF mitogenic activity. *J. Biol. Chem*. 276:48341-48349.
Bechard et al. (2001b) Human ESM-1 binds directly to the integrin CD11a/CD18 (LFA-1) and blocks binding to ICAM-1. *J. Immunol*. 167:3099-3106.
Lassalle et al. (1996) ESM-1 is a novel human endothelial cell-specific molecule expressed in lung and regulated by citokines. *J. Biol. Chem*. 271:20458-20464.
Leroy et al. (2010) Vascular endocan (ESM-1) is markedly overexpressed in clear cell renal cell carcinoma. *Histopathology* 56:180-187.
Maurage et al. (2009) Endocan expression and localization in human glioblastomas. *J. Neuropathol. Exp. Neurol.* 68:836-844.
Sarrazin et al. (2006) Endocan or endothelial cell specific molecule-1 (ESM-1): a potential novel endothelial cell marker. *BBA Reviews* 1765:25-37.
Sarrazin et al. (2010a) Characterization and binding activity of the chondroitin/dermatan sulfate chain from Endocan, a soluble endothelial proteoglycan. *Glycobiology.* 20:1380-1388.
Sarrazin et al. (2010b) Endocan as a biomarker of endothelial dysfunction in cancer. *J. Canc. Sci. Ther*. 2:47-52.
Scherpereel et al. (2003) Overexpression of endocan induces tumor formation. *Cancer Res.* 63:6084-6089.
Scherpereel et al. (2006) Endocan, a new endothelial marker in human sepsis. *Crit. Care Med*. 34:532-537.
Tsai et al. (2002) Cloning and characterization of the human lung ESM-1 promoter. *J. Vasc. Res*. 39:148-159.

Companion products

- Anti-human endocan/ESM-1 mAb (N-ter) ; clone MEP08: **LIA-0901**
- Anti-human endocan/ESM-1 mAb (N-ter) ; clone MEP21 : **LIA-0902**
- Anti-human endocan/ESM-1 mAb (C-ter) ; clone MEP14 : **LIA-1001**
- Human recombinant endocan/ESM-1 (50 kDa) : **LIP-1001**
- DIYEK EndoMark H1 (ImmunoAssay against human endocan) : **LIK-1101**

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