

PRODUCT INFORMATION SHEET

Monoclonal antibodies detecting human antigens

Anti-Human ESM-1 (clone 2G9-2B1)

PURE RUO REF IQP-714P VOLUME 0.1 ml à 1.0 mg/ml

RUO

For Research Use Only



Description

Clone	2G9-2B1
Isotype	Mouse IgG1
Specificity	Recognizes human ESM-1, binding at amino acids 87-117.
Species	Human
Alternative name(s)	Endocan

Antigen distribution

ESM-1 is 184 amino acids long. The 2G9-2B1 clone antigen is located between amino acids 87-117.

Summary

Endothelial cell-specific molecule 1 (ESM-1), also known as endocan, was originally discovered by Lassalle and collaborators in endothelial cells¹. Structurally, ESM-1 is a dermatan sulfate proteoglycan of 50 kDa that is freely circulating in blood^{2,3}. ESM-1 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 migration⁴. Moreover, ESM-1 has been recently described as a biomarker of tip cells⁵. The expression of EMS-1 is upregulated by pro-inflammatory molecules such as tumor necrosis factor alpha (TNF α), and pro-angiogenic molecules such as vascular endothelial growth factor (VEGF) and fibroblast growth factor 2 (FGF-2)^{6,7}. ESM-1 binds via its dermatan sulfate chain to hepatocyte growth factor/scatter factor (HGF/SF)^{2,5}. Elevated blood levels of ESM-1 has been reported in patients with lung and kidney cancers as well as in patients with severe sepsis^{4, 8-10}. ESM-1 appears as a pertinent biomarker of endothelial dysfunction⁵.

Applications

Western blot (WB): The anti-human ESM-1 antibody clone 2G9-2B1 is recommended to detect human ESM-1 after electrophoresis and immunoblotting. Recommended working dilutions were determined to be 1 μ g/mL. Optimal dilutions should be determined according sample origins. Other applications: to be determined.

Usage

These reagents are effectively formulated for Western Blot. Since applications vary, each investigator should titrate the reagent to obtain optimal results.

Purity

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



Handling and Storage

Antibodies are supplied in 0.01 M sodium phosphate, 0.15 M NaCl; pH 7.3, 0.2% BSA, 0.09% sodiumazide (NaN₃). Store the vials at 2-8 °C. Reagents are stable for the period shown on the vial label when stored properly

Warranty

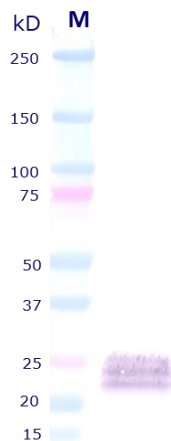
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Characterization

To ensure consistently high-quality reagents, each batch of monoclonal antibody is tested for conformance with characteristics of a standard reagent.

Representative Data











Recombinant human ESM-1 protein (24-27 kDa)



References

1. Lassalle et al. (1996). ESM-1 is a novel human endothelial cell-specific molecule expressed in lung and regulated by cytokines. *J. Biol. Chem.* 271:20458-20464.
2. Bechard et al. (2001a). Endocan is a novel CS/DS proteoglycan that promotes HGF/SF mitogenic activity. *J. Biol. Chem.* 276:48341-48349.
3. Sarrazin et al. (2010a). Characterization and binding activity of the chondroitin/dermatan sulfate chain from endocan, a soluble endothelial proteoglycan. *Glycobiology.* 20:1380-1388.
4. 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.
5. Sarrazin et al. (2010b). Endocan as a biomarker of endothelial dysfunction in cancer. *J. Canc. Sci. Ther.* 2:47-52.
6. Sarrazin et al. (2006). Endocan or endothelial cell specific molecule-1 (ESM-1): a potential novel endothelial cell marker. *BBA Reviews* 1765:25-37.
7. Maurage et al. (2009). Endocan expression and localization in human glioblastomas. *J. Neuropathol. Exp. Neurol.* 68:836-844.
8. Scherpereel et al. (2003). Overexpression of endocan induces tumor formation. *Cancer Res.* 63:6084-6089.
9. Scherpereel et al. (2006). Endocan, a new endothelial marker in human sepsis. *Crit. Care Med.* 34:532-537.
10. Leroy et al. (2010). Vascular endocan (ESM-1) is markedly overexpressed in clear cell renal cell carcinoma. *Histopathology* 56:180-187.

Explanation of used symbols

	Consult instructions for use
	Catalogue number
	Caution, consult accompanying document
	Keep away from (sun)light
	Biological risks
	Temperature limitation (°C)
	For Research Use Only
	Batch code
	Use by yyyy-mm-dd
	Manufacturer



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