

ESM-1 (C-10): sc-515304

BACKGROUND

Endothelial cell specific molecule-1 (ESM-1) is a proteoglycan secreted by endothelial cells and its mRNA expression is regulated by inflammatory cytokines. The secreted form of ESM-1 is posttranslationally modified. ESM-1 is expressed in human lung and kidney tissues and is mainly localized in the vascular endothelium both *in vitro* and *in vivo*. ESM-1 binds directly to LFA-1, which is an $\alpha\beta$ heterodimeric transmembrane glycoprotein consisting of an α L subunit (CD11a) and a β 2 subunit (CD18) onto the cell surface of human blood lymphocytes, monocytes and Jurkat cells. The major counterparts of LFA-1 are ICAM-1, ICAM-2 and ICAM-3. ESM-1 and ICAM-1 interact with LFA-1 on binding sites very close to but distinct from the I domain of CD11a, suggesting that ESM-1 may influence both the recruitment of circulating lymphocytes to the inflammatory sites and LFA-1 dependent leukocyte adhesion and activation.

REFERENCES

1. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.
2. Diamond, M.S. and Springer, T.A. 1994. The dynamic regulation of integrin adhesiveness. *Curr. Biol.* 4: 506-517.
3. Lassalle, P., 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.
4. Bechard, D., et al. 2000. Characterization of the secreted form of endothelial-cell-specific molecule 1 by specific monoclonal antibodies. *J. Vasc. Res.* 37: 417-425.
5. Bechard, D., et al. 2001. Human endothelial-cell specific molecule-1 binds directly to the integrin CD11a/CD18 (LFA-1) and blocks binding to intercellular adhesion molecule-1. *J. Immunol.* 167: 3099-3106.

CHROMOSOMAL LOCATION

Genetic locus: ESM1 (human) mapping to 5q11.2.

SOURCE

ESM-1 (C-10) is a mouse monoclonal antibody raised against amino acids 57-184 mapping at the C-terminus of ESM-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ESM-1 (C-10) is available conjugated to agarose (sc-515304 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515304 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515304 PE), fluorescein (sc-515304 FITC), Alexa Fluor® 488 (sc-515304 AF488), Alexa Fluor® 546 (sc-515304 AF546), Alexa Fluor® 594 (sc-515304 AF594) or Alexa Fluor® 647 (sc-515304 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515304 AF680) or Alexa Fluor® 790 (sc-515304 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ESM-1 (C-10) is recommended for detection of ESM-1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ESM-1 siRNA (h): sc-40543, ESM-1 shRNA Plasmid (h): sc-40543-SH and ESM-1 shRNA (h) Lentiviral Particles: sc-40543-V.

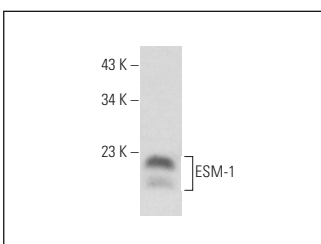
Molecular Weight of ESM-1: 20 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ESM-1 (C-10): sc-515304. Western blot analysis of ESM-1 expression in HUV-EC-C whole cell lysate.

SELECT PRODUCT CITATIONS

1. Yang, J., et al. 2017. Endocan silencing induces programmed cell death in hepatocarcinoma. *Oncol. Lett.* 14: 5333-5339.
2. Zolali, E., et al. 2019. Metformin effect on endocan biogenesis in human endothelial cells under diabetic condition. *Arch. Med. Res.* 50: 304-314.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.