



E-Selectin siRNA (h): sc-29296

BACKGROUND

Selectins, also designated CD62 antigens, comprise a family of carbohydrate-binding proteins involved in mediating cellular interactions with leukocytes. L-Selectin (also designated LECAM-1 or CD62L) is expressed on the majority of B and naive T cells and on most monocytes, neutrophils and eosinophils. L-Selectin interacts with specific carbohydrates expressed by activated endothelial cells. P-Selectin (also designated GMP-140 or CD62P), expressed on activated platelets and endothelial cells, and E-Selectin (also designated ELMA-1 or CD62E), expressed on endothelial cells, exhibit overlapping ligand specificities. E-Selectin is expressed by cytokine-stimulated endothelial cells and is thought to be responsible for the accumulation of blood leukocytes at sites of inflammation by mediating the adhesion of cells to the vascular lining.

REFERENCES

1. Varki, A. 1994. Selectin ligands. *Proc. Natl. Acad. Sci. USA* 91: 7390-7397.
2. Tedder, T.F., et al. 1995. The selectins: vascular adhesion molecules. *FASEB J.* 10: 866-873.
3. Lasky, L.A. 1995. Selectin-carbohydrate interactions and the initiation of the inflammatory response. *Annu. Rev. Biochem.* 64: 113-139.
4. Pavalko, R.M., et al. 1995. The cytoplasmic domain of L-Selectin interacts with cytoskeletal proteins via α -actinin: receptor positioning in microvilli does not require interaction with α -actenin. *J. Cell Biol.* 129: 1155-1164.
5. McEver, R.P., et al. 1996. Leukocyte trafficking mediated by selectin-carbohydrate interactions. *J. Biol. Chem.* 270: 11025-11028.
6. Diacovo, T.G., et al. 1996. Platelet-mediated lymphocyte delivery to high endothelial venules. *Science* 273: 252-255.

CHROMOSOMAL LOCATION

Genetic locus: SELE (human) mapping to 1q24.2.

PRODUCT

E-Selectin siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see E-Selectin shRNA Plasmid (h): sc-29296-SH and E-Selectin shRNA (h) Lentiviral Particles: sc-29296-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

RESEARCH USE

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

APPLICATIONS

E-Selectin siRNA (h) is recommended for the inhibition of E-Selectin expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

E-Selectin (D-7): sc-137054 is recommended as a control antibody for monitoring of E-Selectin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor E-Selectin gene expression knockdown using RT-PCR Primer: E-Selectin (h)-PR: sc-29296-PR (20 μ l, 323 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Oh, I.Y., et al. 2007. Involvement of E-Selectin in recruitment of endothelial progenitor cells and angiogenesis in ischemic muscle. *Blood* 110: 3891-3899.
2. Laviola, L., et al. 2013. TNF α signals via p66(Shc) to induce E-Selectin, promote leukocyte transmigration and enhance permeability in human endothelial cells. *PLoS ONE* 8: e81930.
3. Takeda, Y., et al. 2019. ROCK2 regulates monocyte migration and cell to cell adhesion in vascular endothelial cells. *Int. J. Mol. Sci.* 20: 1331.
4. Hagi, T., et al. 2021. Anti-metastatic effect of methylprednisolone targeting vascular endothelial cells under surgical stress. *Sci. Rep.* 11: 6268.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.