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SANTA CRUZ BIOTECHNOLOGY, INC.

JAM-B siRNA (h): sc-43141

BACKGROUND

Junctional adhesion molecule (JAM) is a member of the immunoglobulin superfamily expressed in tight junctions of epithelial cells and endothelial cells. It is implicated in transendothelial migration of leukocytes. JAM is constitutively expressed on circulating monocytes, neutrophils, lymphocytes subsets and platelets. The JAM family consists of JAM-A, JAM-B and JAM-C, alternatively designated JAM-1, JAM-2 and JAM-3, respectively. JAM-A localizes with F-Actin at the cell-cell contacts and at the membrane ruffles. It is involved in cell to cell adhesion through homophilic interactions and plays a role in the organization of tight junctions and modulation of leukocyte extravasation. JAM-B interacts with discrete subsets of PBLs, suggesting that it may play a role in lymphocyte trafficking. JAM-B and JAM-C proteins are binding partners; JAM-C may be a functional JAM-B receptor. Specifically, JAM-B adheres to T cells through heterotypic interactions with JAM-C. The JAM-B/JAM-C interaction my play a role in T, NK and dendritic cellular inflammation.

REFERENCES

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2. Ozaki, H., et al. 1999. Cutting edge: combined treatment of TNFα and IFN-γ causes redistribution of junctional adhesion molecule in human endothelial cells. J. Immunol. 163: 553-557.
3. Ozaki, H., et al. 2000. Junctional adhesion molecule (JAM) is phosphorylated by protein kinase C upon platelet activation. Biochem. Biophys. Res. Commun. 276: 873-878.
4. Ebnet, K., et al. 2000. Junctional adhesion molecule interacts with the PDZ domain-containing proteins AF-6 and ZO-1. J. Biol. Chem. 275: 27979-27988.
5. Dejana, E., et al. 2000. The molecular organization of endothelial junctions and their funcitonal role in vascular morphogenesis and permeability. Int. J. Dev. Biol. 44: 743-748.
6. Bazzoni, G., et al. 2000. Homophilic interaction of junctional adhesion molecule. J. Biol. Chem. 275: 30970-30976.

CHROMOSOMAL LOCATION

Genetic locus: JAM2 (human) mapping to 21q21.3.

PRODUCT

JAM-B siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see JAM-B shRNA Plasmid (h): sc-43141-SH and JAM-B shRNA (h) Lentiviral Particles: sc-43141-V as alternate gene silencing products.

For independent verification of JAM-B (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-43141A, sc-43141B and sc-43141C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

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

UPPORT 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 µM in 66 µl. 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

JAM-B (1G4): sc-293496 is recommended as a control antibody for monitoring of JAM-B 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 JAM-B gene expression knockdown using RT-PCR Primer: JAM-B (h)-PR: sc-43141-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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