SANTA CRUZ BIOTECHNOLOGY, INC.

JAM4 siRNA (m): sc-105583

BACKGROUND

The junctional adhesion molecule (JAM) family are members of the immunoglobulin superfamily, which are specifically expressed in tight junctions of epithelial and endothelial cells. The JAM family consists of JAM1, JAM2, JAM3 and JAM4. JAM1 localizes with F-actin at the cell-cell contacts and at the membrane ruffles, but not at the stress fibers, and is involved in cell to cell, adhesion through homophilic interactions. JAM1 plays a role in the organization of tight junctions and modulates leukocyte extravasation through endothelial intercellular junctions *in vitro* and *in vivo*. JAM4 mediates calcium-independent homophilic cell adhesion. It interacts with MAGI-1 (membrane associated guanylate kinase inverted-1), a scaffolding protein, to regulate the permeability of kidney glomerulus and small intestine epithelial cells.

REFERENCES

1. Martìn-Padura, I., et al. 1998. Junctional adhesion molecule, a novel member of the immunoglobulin superfamily that distributes at intercellular junctions and modulates monocyte transmigration. J. Cell Biol. 142: 117-127.
2. Naik, U.P., et al. 2001. Characterization and chromosomal localization of JAM1, a platelet receptor for a stimulatory monoclonal antibody. J. Cell Sci. 114 (Pt 3): 539-547.
3. Tajima, M., et al. 2003. Roles of immunoglobulin-like loops of junctional cell adhesion molecule 4; involvement in the subcellular localization and the cell adhesion. Genes Cells 8: 759-768.
4. Hirabayashi, S., et al. 2003. JAM4, a junctional cell adhesion molecule interacting with a tight junction protein, MAGI-1. Mol. Cell. Biol. 23: 4267-4282.
5. Mori, H., et al. 2004. JAM4 enhances hepatocyte growth factor-mediated branching and scattering of Madin-Darby canine kidney cells. Genes Cells 9: 811-819.
6. Hirabayashi, S., et al. 2005. MAGI-1 is a component of the glomerular slit diaphragm that is tightly associated with nephrin. Lab. Invest. 85: 1528-1543.

CHROMOSOMAL LOCATION

Genetic locus: Igsf5 (mouse) mapping to 16 C4.

PRODUCT

JAM4 siRNA (m) 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 JAM4 shRNA Plasmid (m): sc-105583-SH and JAM4 shRNA (m) Lentiviral Particles: sc-105583-V as alternate gene silencing products.

For independent verification of JAM4 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-105583A, sc-105583B and sc-105583C.

PROTOCOLS

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

JAM4 siRNA (m) is recommended for the inhibition of JAM4 expression in mouse 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 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

JAM4 (F-8): sc-390815 is recommended as a control antibody for monitoring of JAM4 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor JAM4 gene expression knockdown using RT-PCR Primer: JAM4 (m)-PR: sc-105583-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.