SANTA CRUZ BIOTECHNOLOGY, INC.

FMNL1 siRNA (m): sc-62326

BACKGROUND

Formin-like protein 1 (FMNL1, formin-related protein, Frl) is a 1,094 amino acid protein encoded by the mouse gene Fmnl1. FMNL1 belongs to the formin homology family and has one DAD (diaphanous autoregulatory domain), one FH2 (formin homology 2) domain, and one GBD/FH3 (Rho GTPase-binding/ formin homology 3) domain. Formins are a conserved class of proteins expressed in all eukaryotes, with known roles in generating cellular Actin-based structures. FMNL1 is believed to play a role in the control of cell motility and survival of macrophages. FMNL1 has been found to interact with Rac 1, PFN1 and PFN2 and can block apoptotic cell death and inhibit cell adhesion and migration. FMNL1 is located in the cytoplasm and is highly expressed in the spleen, lymph nodes and bone marrow cells.

REFERENCES

1. Yayoshi-Yamamoto, S., et al. 2000. FRL, a novel formin-related protein, binds to Rac and regulates cell motility and survival of macrophages. Mol. Cell. Biol. 20: 6872-6881.
2. Katoh, M. and Katoh, M. 2003. Identification and characterization of human FMNL1, FMNL2 and FMNL3 genes in silico. Int. J. Oncol. 22: 1161-1168.
3. Katoh, M. and Katoh, M. 2004. Identification and characterization of the human FMN1 gene in silico. Int. J. Mol. Med. 14: 121-126.
4. Harris, E.S., et al. 2004. The mouse formin, FRLa, slows Actin filament barbed end elongation, competes with capping protein, accelerates polymerization from monomers, and severs filaments. J. Biol. Chem. 279: 20076-20087.
5. Favaro, P.M., et al. 2006. High expression of FMNL1 protein in T non-Hodgkin's lymphomas. Leuk. Res. 30: 735-738.
6. Schwartzberg, P.L. 2007. Formin the way. Immunity 26: 139-141.
7. Gomez, T.S., et al. 2007. Formins regulate the Actin-related protein 2/3 complex-independent polarization of the centrosome to the immunological synapse. Immunity 26: 177-190.

CHROMOSOMAL LOCATION

Genetic locus: Fmnl1 (mouse) mapping to 11 E1.

PRODUCT

FMNL1 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 FMNL1 shRNA Plasmid (m): sc-62326-SH and FMNL1 shRNA (m) Lentiviral Particles: sc-62326-V as alternate gene silencing products.

For independent verification of FMNL1 (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-62326A, sc-62326B and sc-62326C.

PROTOCOLS

See our web site at www.scbt.com 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

FMNL1 siRNA (m) is recommended for the inhibition of FMNL1 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

FMNL1 (A-4): sc-390466 is recommended as a control antibody for monitoring of FMNL1 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 FMNL1 gene expression knockdown using RT-PCR Primer: FMNL1 (m)-PR: sc-62326-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.