

FRMPD2 siRNA (h): sc-90419

BACKGROUND

FERM domains are roughly 150 amino acids in length and are found in a number of cytoskeletal-associated proteins such as Ezrin, Radixin, Moesin and 4.1 (erythrocyte membrane protein band 4.1), where they provide a link between cytoskeletal signals and membrane dynamics. FRMPD2 (FERM and PDZ domain-containing protein 2), also known as PDZD5C (PDZ domain-containing protein 5C) or PDZK4 (PDZ domain-containing protein 4), is a 1,309 amino acid protein containing one FERM domain, a KIND domain, and three PDZ (DHR) domains. Localizing to cytoplasm and basolateral cell membrane, FRMPD2 is expressed in epithelial cells and may play a role in the regulation of tight junction formation. FRMPD2 exists as five alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 10q11.22.

REFERENCES

1. Strausberg, R.L., Feingold, E.A., Grouse, L.H., Derge, J.G., Klausner, R.D., Collins, F.S., Wagner, L., Shenmen, C.M., Schuler, G.D., Altschul, S.F., Zeeberg, B., Buetow, K.H., Schaefer, C.F., Bhat, N.K., Hopkins, R.F., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. *Proc. Natl. Acad. Sci. USA* 99: 16899-16903.
2. Deloukas, P., Earthrowl, M.E., Grafham, D.V., Rubenfield, M., French, L., Steward, C.A., Sims, S.K., Jones, M.C., Searle, S., Scott, C., Howe, K., Hunt, S.E., Andrews, T.D., Gilbert, J.G., Swarbreck, D., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. *Nature* 429: 375-381.
3. Grupe, A., Li, Y., Rowland, C., Nowotny, P., Hinrichs, A.L., Smemo, S., Kauwe, J.S., Maxwell, T.J., Cherny, S., Doil, L., Tacey, K., van Luchene, R., Myers, A., Wavrant-De Vrièze, F., Kaleem, M., Hollingworth, P., et al. 2006. A scan of chromosome 10 identifies a novel locus showing strong association with late-onset Alzheimer disease. *Am. J. Hum. Genet.* 78: 78-88.
4. Lamesch, P., Li, N., Milstein, S., Fan, C., Hao, T., Szabo, G., Hu, Z., Venkatesan, K., Bethel, G., Martin, P., Rogers, J., Lawlor, S., McLaren, S., Dricot, A., Borick, H., Cusick, M.E., Vandenhaute, J., Dunham, I., et al. 2007. hORFeome v3.1: a resource of human open reading frames representing over 10,000 human genes. *Genomics* 89: 307-315.
5. Stenzel, N., Fetzer, C.P., Heumann, R. and Erdmann, K.S. 2009. PDZ-domain-directed basolateral targeting of the peripheral membrane protein FRMPD2 in epithelial cells. *J. Cell Sci.* 122: 3374-3384.
6. Rose, J.E., Behm, F.M., Drgon, T., Johnson, C. and Uhl, G.R. 2010. Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. *Mol. Med.* 16: 247-253.

CHROMOSOMAL LOCATION

Genetic locus: FRMPD2 (human) mapping to 10q11.22.

PROTOCOLS

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

PRODUCT

FRMPD2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FRMPD2 shRNA Plasmid (h): sc-90419-SH and FRMPD2 shRNA (h) Lentiviral Particles: sc-90419-V as alternate gene silencing products.

For independent verification of FRMPD2 (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-90419A, sc-90419B and sc-90419C.

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.

APPLICATIONS

FRMPD2 siRNA (h) is recommended for the inhibition of FRMPD2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FRMPD2 gene expression knockdown using RT-PCR Primer: FRMPD2 (h)-PR: sc-90419-PR (20 μ l). 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.