

FRMD5 siRNA (m): sc-145242

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. FRMD5 (FERM domain-containing protein 5) is a 570 amino acid single-pass membrane protein that contains one FERM domain and exists as 2 alternatively spliced isoforms. The gene encoding FRMD5 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

REFERENCES

1. Hurowitz, G.I., Silver, J.M., Brin, M.F., Williams, D.T. and Johnson, W.G. 1993. Neuropsychiatric aspects of adult-onset Tay-Sachs disease: two case reports with several new findings. *J. Neuropsychiatry Clin. Neurosci.* 5: 30-36.
2. Gunn-Moore, F.J., Welsh, G.I., Herron, L.R., Brannigan, F., Venkateswarlu, K., Gillespie, S., Brandwein-Gensler, M., Madan, R., Tavaré, J.M., Brophy, P.J., Prystowsky, M.B. and Guild, S. 2005. A novel 4.1 Ezrin Radixin Moesin (FERM)-containing protein, "Willin". *FEBS Lett.* 579: 5089-5094.
3. Ceccarelli, D.F., Song, H.K., Poy, F., Schaller, M.D. and Eck, M.J. 2006. Crystal structure of the FERM domain of focal adhesion kinase. *J. Biol. Chem.* 281: 252-259.
4. Midla, G.S. 2008. Diagnosis and management of patients with Marfan syndrome. *JAAPA* 21: 21-25.
5. Tepass, U. 2009. FERM proteins in animal morphogenesis. *Curr. Opin. Genet. Dev.* 19: 357-367.

CHROMOSOMAL LOCATION

Genetic locus: Frmd5 (mouse) mapping to 2 E5.

PRODUCT

FRMD5 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FRMD5 shRNA Plasmid (m): sc-145242-SH and FRMD5 shRNA (m) Lentiviral Particles: sc-145242-V as alternate gene silencing products.

For independent verification of FRMD5 (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-145242A, sc-145242B and sc-145242C.

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.

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

FRMD5 siRNA (m) is recommended for the inhibition of FRMD5 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 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

FRMD5 (D-8): sc-514867 is recommended as a control antibody for monitoring of FRMD5 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 FRMD5 gene expression knockdown using RT-PCR Primer: FRMD5 (m)-PR: sc-145242-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.