

MICAL3 siRNA (h): sc-75783

BACKGROUND

MICAL3 (microtubule associated monooxygenase, calponin and LIM domain containing 3), also known as KIAA1364, is a 976 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and contains one LIM zinc-binding domain and one calponin-homology domain. Expressed ubiquitously, MICAL3 uses FAD as a cofactor to interact with Rab 1B and, via this interaction, is thought to play a role in spermatid development. MICAL3 exists as two alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 22q11.21. Chromosome 22 houses over 500 genes, some of which are involved in Phelan-McDermid syndrome, schizophrenia and neurofibromatosis type 2.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: MICAL3 (human) mapping to 22q11.21.

PRODUCT

MICAL3 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 MICAL3 shRNA Plasmid (h): sc-75783-SH and MICAL3 shRNA (h) Lentiviral Particles: sc-75783-V as alternate gene silencing products.

For independent verification of MICAL3 (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-75783A, sc-75783B and sc-75783C.

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

MICAL3 siRNA (h) is recommended for the inhibition of MICAL3 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.

GENE EXPRESSION MONITORING

MICAL3 (3A6): sc-517049 is recommended as a control antibody for monitoring of MICAL3 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 MICAL3 gene expression knockdown using RT-PCR Primer: MICAL3 (h)-PR: sc-75783-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.

PROTOCOLS

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