SANTA CRUZ BIOTECHNOLOGY, INC.

MRS2L siRNA (h): sc-95050

BACKGROUND

MRS2L (magnesium transporter MRS2 homolog, mitochondrial), also known as MRS2 or HPT, is a 443 amino acid protein that is a part of the inner membrane of mitochondrion and is distantly related to CorA Mg^{2+} transport proteins. Belonging to the CorA metal ion transporter (MIT) (TC 1.A.35) family, MRS2L is a magnesium transporter that may mediate the influx of magnesium into the mitochondrial matrix. MRS2L exists as three alternatively spliced isoforms and is considered a multi-pass membrane protein. MRS2L, along with OXA1L, YME1L1 and MIPEP, may be involved in the pathology of combined enzymatic deficiencies of the oxidative phosphorylation (OXPHOS) system. MRS2L deregulation can promote cell death because deficiency of external magnesium induces apoptosis in rat hepatocytes. In brain MRS2L is most highly expressed in the superior temporal cortex, hypothalamus and amygdala. The MRS2L gene maps to chromosome 6p22.3.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: MRS2 (human) mapping to 6p22.3.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

MRS2L 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MRS2L shRNA Plasmid (h): sc-95050-SH and MRS2L shRNA (h) Lentiviral Particles: sc-95050-V as alternate gene silencing products.

For independent verification of MRS2L (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-95050A, sc-95050B and sc-95050C.

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

MRS2L siRNA (h) is recommended for the inhibition of MRS2L 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MRS2L gene expression knockdown using RT-PCR Primer: MRS2L (h)-PR: sc-95050-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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