SANTA CRUZ BIOTECHNOLOGY, INC.

ETFA siRNA (h): sc-62259

BACKGROUND

ETFA (electron-transfer-flavoprotein, α polypeptide), also known as EMA, GA2 or MADD, is a 333 amino acid protein that localizes to the mitochondrial matrix and belongs to the ETF α-subunit/fixB family. Existing as a heterodimer with ETFB, ETFA uses FAD as a cofactor and serves as a specific electron acceptor for several dehydrogenases, effectively transferring electrons to the mitochondrial respiratory chain via ETF-ubiquinone oxidoreductase. Defects in the gene encoding ETFA are the cause of glutaric aciduria type IIA (GAIIA), a condition that is characterized by the excretion of lactic, ethylmalonic, butyric, isobutyric, 2-methyl-butyric, glutaric and isovaleric acids. The gene en-coding ETFA maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

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6. Olsen, R.K., et al. 2003. Clear relationship between ETF/ETFDH genotype and phenotype in patients with multiple acyl-CoA dehydrogenation deficiency. Hum. Mutat. 22: 12-23.
7. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 608053. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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CHROMOSOMAL LOCATION

Genetic locus: ETFA (human) mapping to 15q24.2.

PROTOCOLS

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

PRODUCT

ETFA 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 ETFA shRNA Plasmid (h): sc-62259-SH and ETFA shRNA (h) Lentiviral Particles: sc-62259-V as alternate gene silencing products.

For independent verification of ETFA (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-62259A, sc-62259B and sc-62259C.

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

ETFA siRNA (h) is recommended for the inhibition of ETFA 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 ETFA gene expression knockdown using RT-PCR Primer: ETFA (h)-PR: sc-62259-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.