SANTA CRUZ BIOTECHNOLOGY, INC.

DARP siRNA (h): sc-95037

BACKGROUND

Ankyrins are membrane adaptor molecules that play important roles in coupling integral membrane proteins to the spectrin-based cytoskeleton network. Mutations of ankyrin genes lead to severe genetic diseases, such as fatal cardiac arrhythmias and hereditary spherocytosis. DARP (diabetes-related ankyrin repeat protein), also known as ANKRD23 (ankyrin repeat domain 23) or MARP3 (muscle ankyrin repeat protein 3), is a 305 amino acid coiled-coil protein that contains four ANK repeats and belongs to the MARP family. Encoded by a gene that maps to human chromosome 2q11.2, DARP is conserved in chimpanzee, canine, mouse and rat. DARP exists as two alternatively spliced isoforms, localizes to nucleus and is evident during recovery following starvation. Expressed mainly in heart, skeletal muscle and brown adipose tissues, DARP binds to the elastic filamentous protein Titin and is up-regulated in type 2 diabetes, as well as brown adipose tissue, suggesting a role in energy metabolism. DARP also functions as a transcriptional regulator and may be be a molecular link between myofibrillar stretch-induced signaling pathways and muscle gene expression. DARP may also play a role in cardiac hypertrophy.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: ANKRD23 (human) mapping to 2q11.2.

PRODUCT

DARP siRNA (h) is a pool of 2 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 DARP shRNA Plasmid (h): sc-95037-SH and DARP shRNA (h) Lentiviral Particles: sc-95037-V as alternate gene silencing products.

For independent verification of DARP (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-95037A and sc-95037B.

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

DARP siRNA (h) is recommended for the inhibition of DARP 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 DARP gene expression knockdown using RT-PCR Primer: DARP (h)-PR: sc-95037-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.

PROTOCOLS

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