SANTA CRUZ BIOTECHNOLOGY, INC.

ANKRD2 siRNA (h): sc-90498

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. ANKRD2 (ankyrin repeat domain 2), also known as ARPP or skeletal muscle ankyrin repeat protein, is a 360 amino acid protein involved in skeletal muscle hypertrophy that is expressed in slow fibers of skeletal and cardiac muscles and found in kidney, to a lesser extent. ANKRD2 is a member of the conserved muscle ankyrin repeat protein (MARP) family, whose expression can be triggered by injury, hypertrophy or physiological stress. Expressed as two alternatively spliced isoforms, ANKRD2 contains five ANK repeats and is encoded by a gene that maps to human chromosome 10q24.2.

REFERENCES

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3. Nakamura, K., et al. 2002. Altered expression of cardiac ankyrin repeat protein and its homologue, ankyrin repeat protein with PEST and proline-rich region, in atrophic muscles in amyotrophic lateral sclerosis. Pathobiology 70: 197-203.
4. Miller, M.K., et al. 2003. The muscle ankyrin repeat proteins: CARP, ANKRD2/ARPP and DARP as a family of titin filament-based stress response molecules. J. Mol. Biol. 333: 951-964.
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6. Ishiguro, N., et al. 2005. Immunohistochemical analysis of a muscle ankyrin-repeat protein, Arpp, in paraffin-embedded tumors: evaluation of Arpp as a tumor marker for rhabdomyosarcoma. Hum. Pathol. 36: 620-625.
7. Mckoy, G., et al. 2005. Expression of ANKRD2 in fast and slow muscles and its response to stretch are consistent with a role in slow muscle function. J. Appl. Physiol. 98: 2337-2343.
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CHROMOSOMAL LOCATION

Genetic locus: ANKRD2 (human) mapping to 10q24.2.

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.

PRODUCT

ANKRD2 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 ANKRD2 shRNA Plasmid (h): sc-90498-SH and ANKRD2 shRNA (h) Lentiviral Particles: sc-90498-V as alternate gene silencing products.

For independent verification of ANKRD2 (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-90498A, sc-90498B and sc-90498C.

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

ANKRD2 siRNA (h) is recommended for the inhibition of ANKRD2 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 ANKRD2 gene expression knockdown using RT-PCR Primer: ANKRD2 (h)-PR: sc-90498-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.