SANTA CRUZ BIOTECHNOLOGY, INC.

Akirin1 siRNA (h): sc-78783

BACKGROUND

Numerous invertebrates retain a single Akirin family member, coorthologous to two paralogs (Akirin1 and Akirin2) created by a genomic duplication in the vertebrate stem of chordates. Although Akirin1 is lost in avians, amphibians and mammals preserve both paralogs. Akirin1, also known as STRF2 or Mighty, is a 192 amino acid protein belonging to the Akirin family. Encoded by a gene that maps to human chromosome 1p34.3, Akirin1 localizes to nucleus and is widely expressed, with high expression in heart, liver, placenta and peripheral blood leukocytes. Present in macrophages, Akirin1 is a downstream myostatin target that is downregulated in skeletal muscle. Conversely, Akirin1 is upregulated in activated satellite cells and in regenerating muscle, indicating involvement in muscle regeneration. Linked to chemotaxis of macrophages and myoblasts, Akirin1 is present in both proliferating and differentiating myoblasts, and is involved in post mitotic differentiation and hypertrophy of myotubes.

REFERENCES

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5. Macqueen, D.J. and Johnston, I.A. 2009. Evolution of the multifaceted eukaryotic akirin gene family. BMC Evol. Biol. 9: 34.
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CHROMOSOMAL LOCATION

Genetic locus: AKIRIN1 (human) mapping to 1p34.3.

PROTOCOLS

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

PRODUCT

Akirin1 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 Akirin1 shRNA Plasmid (h): sc-78783-SH and Akirin1 shRNA (h) Lentiviral Particles: sc-78783-V as alternate gene silencing products.

For independent verification of Akirin1 (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-78783A, sc-78783B and sc-78783C.

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

Akirin1 siRNA (h) is recommended for the inhibition of Akirin1 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 Akirin1 gene expression knockdown using RT-PCR Primer: Akirin1 (h)-PR: sc-78783-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.