SANTA CRUZ BIOTECHNOLOGY, INC.

SmarcAL1 siRNA (m): sc-63043

BACKGROUND

SmarcAL1 (SWI/SNF-related matrix-associated Actin-dependent regulator of chromatin subfamily A-like protein 1), also known as HARP (HepA-related protein) or HHARP, is a 954 amino acid member of the SWI/SNF family of helicase and ATPase proteins. Localized to the nucleus, SmarcAL1 is a ubiquitously expressed protein that functions in ATP-dependent nucleosome-remodeling activities. SmarcAL1 contains one conserved C-terminal SNF2 domain, one helicase ATP-binding domain and two HARP domains. Defects in the gene encoding SmarcAL1 are the cause of Schimke immuno-osseous dysplasia (SIOD), an autosomal recessive disorder characterized by renal dysfunction, spondyloepiphyseal dysplasia and T cell immunodeficiency.

REFERENCES

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2. Boerkoel, C.F., et al. 2002. Mutant chromatin remodeling protein SmarcAL1 causes Schimke immuno-osseous dysplasia. Nat. Genet. 30: 215-220.
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4. Lücke, T., et al. 2005. Schimke-immuno-osseous dysplasia: new mutation with weak genotype-phenotype correlation in siblings. Am. J. Med. Genet. A 135: 202-205.
5. Kilic, S.S., et al. 2005. Association of migraine-like headaches with Schimke immuno-osseous dysplasia. Am. J. Med. Genet. A 135: 206-210.
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7. Elizondo, L.I., et al. 2006. Schimke immuno-osseous dysplasia: a cell autonomous disorder? Am. J. Med. Genet. A 140: 340-348.
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CHROMOSOMAL LOCATION

Genetic locus: Smarcal1 (mouse) mapping to 1 C3.

PRODUCT

SmarcAL1 siRNA (m) 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 SmarcAL1 shRNA Plasmid (m): sc-63043-SH and SmarcAL1 shRNA (m) Lentiviral Particles: sc-63043-V as alternate gene silencing products.

For independent verification of SmarcAL1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63043A, sc-63043B and sc-63043C.

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

SmarcAL1 siRNA (m) is recommended for the inhibition of SmarcAL1 expression in mouse 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.

GENE EXPRESSION MONITORING

SmarcAL1 (A-2): sc-376377 is recommended as a control antibody for monitoring of SmarcAL1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SmarcAL1 gene expression knockdown using RT-PCR Primer: SmarcAL1 (m)-PR: sc-63043-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.