SANTA CRUZ BIOTECHNOLOGY, INC.

ARH1 siRNA (m): sc-141196

BACKGROUND

ARH1, also known as ADPRH (ADP-ribosylarginine hydrolase), is a 357 amino acid protein that belongs to the ADP-ribosylglycohydrolase family and functions to catalyze the removal of mono-ADP-ribose specifically from arginine residues of proteins in the ADP-ribosylation cycle. Additionally, ARH1 is thought to function as a tumor suppressor whose expression is greatly reduced in follicular thyroid cancer. Human ARH1 shares 83% identity with its rat counterpart, suggesting a conserved role between species. The gene encoding ARH1 maps to human chromosome 3q13.33, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Takada, T., et al. 1993. Cloning and site-directed mutagenesis of human ADP-ribosylarginine hydrolase. J. Biol. Chem. 268: 17837-17843.
2. Zolkiewska, A., et al. 1997. The α 7 integrin as a target protein for cell surface mono-ADP-ribosylation in muscle cells. Adv. Exp. Med. Biol. 419: 297-303.
3. Glowacki, G., et al. 2002. The family of toxin-related ecto-ADP-ribosyltransferases in humans and the mouse. Protein Sci. 11: 1657-1670.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603081. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Aoki, K., et al. 2005. Genomic organization and promoter analysis of the mouse ADP-ribosylarginine hydrolase gene. Gene 351: 83-95.
6. Weber, F., et al. 2005. Silencing of the maternally imprinted tumor suppressor ARHI contributes to follicular thyroid carcinogenesis. J. Clin. Endocrinol. Metab. 90: 1149-1155.
7. Kato, J., et al. 2007. Enhanced sensitivity to cholera toxin in ADP-ribosylarginine hydrolase-deficient mice. Mol. Cell. Biol. 27: 5534-5543.

CHROMOSOMAL LOCATION

Genetic locus: Adprh (mouse) mapping to 16 B4.

PRODUCT

ARH1 siRNA (m) 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 ARH1 shRNA Plasmid (m): sc-141196-SH and ARH1 shRNA (m) Lentiviral Particles: sc-141196-V as alternate gene silencing products.

For independent verification of ARH1 (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-141196A and sc-141196B.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

ARH1 siRNA (m) is recommended for the inhibition of ARH1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARH1 gene expression knockdown using RT-PCR Primer: ARH1 (m)-PR: sc-141196-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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