SANTA CRUZ BIOTECHNOLOGY, INC.

AKNA siRNA (h): sc-92794

BACKGROUND

Proteins containing AT hooks bind A/T-rich DNA through a nine-amino-acid motif and are thought to co-regulate transcription by modifying the architecture of DNA, thereby enhancing the accessibility of promoters to transcription factors. AKNA (AT-hook transcription factor) is a 1,439 amino acid nuclear protein containing one A.T hook DNA-binding domain. Predominantly expressed by lymphoid tissues, AKNA is a transcription factor that specifically activates the expression of the CD40 receptor and its ligand CD40L/CD154, two cell surface molecules on lymphocytes that are critical for antigen-dependent-B-cell development. AKNA binds to A/T-rich promoters and exists as eight alternatively spliced variants. AKNA is encoded by a gene located on human chromosome 9, which consists of about 145 million bases and 4% of the human genome and encodes nearly 900 genes.

REFERENCES

1. Lipsky, P.E., et al. 1997. Analysis of CD40-CD40 ligand interactions in the regulation of human B cell function. Ann. N.Y. Acad. Sci. 815: 372-383.
2. Edwalds-Gilbert, G., et al. 1997. Alternative poly(A) site selection in complex transcription units: means to an end? Nucleic Acids Res. 25: 2547-2561.
3. Siddiqa, A., et al. 2001. Regulation of CD40 and CD40 ligand by the AT-hook transcription factor AKNA. Nature 410: 383-387.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number:605729. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Schubert, L.A., et al. 2002. A T cell-specific enhancer of the human CD40 ligand gene. J. Biol. Chem. 277: 7386-7395.
6. Bishop, G.A., et al. 2003. The CD40-CD154 interaction in B cell-T cell liaisons. Cytokine Growth Factor Rev. 14: 297-309.
7. Sims-Mourtada, J.C., et al. 2005. The human AKNA gene expresses multiple transcripts and protein isoforms as a result of alternative promoter usage, splicing, and polyadenylation. DNA Cell Biol. 24: 325-338.

CHROMOSOMAL LOCATION

Genetic locus: AKNA (human) mapping to 9q32.

PRODUCT

AKNA 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 AKNA shRNA Plasmid (h): sc-92794-SH and AKNA shRNA (h) Lentiviral Particles: sc-92794-V as alternate gene silencing products.

For independent verification of AKNA (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-92794A, sc-92794B and sc-92794C.

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

AKNA siRNA (h) is recommended for the inhibition of AKNA 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 AKNA gene expression knockdown using RT-PCR Primer: AKNA (h)-PR: sc-92794-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.