SANTA CRUZ BIOTECHNOLOGY, INC.

ATAD4 siRNA (h): sc-94017

BACKGROUND

The AAA ATPase family of molecular chaperones is characterized by a highly conserved AAA motif. Composed of 200-250 residues, the AAA domain contains Walker homology sequences and imparts ATPase activity. Members of the AAA ATPase family act as DNA helicases or transcription factors and are thought to be involved in several cellular functions, such as cell-cycle regulation, protein proteolysis, organelle biogenesis and vesicle-mediated protein transport. ATAD4 (ATPase family, AAA domain containing 4), also known as PRR15L (proline rich 15-like), is a 103 amino acid protein. Encoded by a gene that maps to human chromosome 17q21.32, ATAD4 is conserved in chimpanzee, canine, bovine and mouse. ATAD4 may play a role in benign serous ovarian tumors and epithelial ovarian cancer.

REFERENCES

1. L'Espérance, S., et al. 2008. Global gene expression analysis of early response to chemotherapy treatment in ovarian cancer spheroids. BMC Genomics 9: 99.
2. Takizawa, F., et al. 2008. Molecular cloning and expression analysis of T-bet in ginbuna crucian carp *(Carassius auratus langsdorfii)*. Mol. Immunol. 45: 127-136.
3. Nagashima, T., et al. 2008. Integrative genome-wide expression analysis bears evidence of estrogen receptor-independent transcription in heregulin-stimulated MCF-7 cells. PLoS ONE 3: e1803.
4. Quinn, M.C., et al. 2009. Reprogramming of the transcriptome in a novel chromosome 3 transfer tumor suppressor ovarian cancer cell line model affected molecular networks that are characteristic of ovarian cancer. Mol. Carcinog. 48: 648-661.
5. Blick, T., et al. 2010. Epithelial mesenchymal transition traits in human breast cancer cell lines parallel the CD44(hi/)CD24 (lo/-) stem cell phenotype in human breast cancer. J. Mammary Gland Biol. Neoplasia 15: 235-252.

CHROMOSOMAL LOCATION

Genetic locus: PRR15L (human) mapping to 17q21.32.

PRODUCT

ATAD4 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 ATAD4 shRNA Plasmid (h): sc-94017-SH and ATAD4 shRNA (h) Lentiviral Particles: sc-94017-V as alternate gene silencing products.

For independent verification of ATAD4 (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-94017A, sc-94017B and sc-94017C.

PROTOCOLS

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

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

ATAD4 siRNA (h) is recommended for the inhibition of ATAD4 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 ATAD4 gene expression knockdown using RT-PCR Primer: ATAD4 (h)-PR: sc-94017-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.