SANTA CRUZ BIOTECHNOLOGY, INC.

ATAD2 siRNA (m): sc-141315

BACKGROUND

ATAD2 (ATPase family, AAA domain containing 2), also known as ANCCA or L16, is a 1,390 amino acid protein that localizes to the nucleus and contains one bromo domain. One of several members of the AAA ATPase family, ATAD2 is thought to exhibit transcriptional coactivation activity towards ERα, a protein that is required to induce the expression of a variety of proteins, including cyclin D1 and c-Myc. Additionally, ATAD2 catalyzes the ATP-dependent phosphorylation of target proteins and is involved in histone hyperacetylation, as well as in estrogen-induced cell proliferation and cell cycle progression of breast cancer cells. ATAD2 is overexpressed in breast, colon, ovary, stomach and osteosarcoma tumor tissue, suggesting an important role in carcinogenesis. Multiple isoforms of ATAD2 exist due to alternative splicing events.

REFERENCES

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2. Petroziello, J., et al. 2004. Suppression subtractive hybridization and expression profiling identifies a unique set of genes overexpressed in non-small-cell lung cancer. Oncogene 23: 7734-7745.
3. Wang, Y., et al. 2005. Gene-expression profiles to predict distant metastasis of lymph-node-negative primary breast cancer. Lancet 365: 671-679.
4. Teschendorff, A.E., et al. 2006. A consensus prognostic gene expression classifier for ER positive breast cancer. Genome Biol. 7: R101.
5. Fellenberg, J., et al. 2007. Prognostic significance of drug-regulated genes in high-grade osteosarcoma. Mod. Pathol. 20: 1085-1094.
6. Lin, Z., et al. 2007. Novel estrogen receptor-α binding sites and estradiol target genes identified by chromatin immunoprecipitation cloning in breast cancer. Cancer Res. 67: 5017-5024.
7. Zou, J.X., et al. 2007. ANCCA, an estrogen-regulated AAA$^+$ ATPase coactivator for ERα, is required for coregulator occupancy and chromatin modification. Proc. Natl. Acad. Sci. USA 104: 18067-18072.

CHROMOSOMAL LOCATION

Genetic locus: Atad2 (mouse) mapping to 15 D1.

PRODUCT

ATAD2 siRNA (m) is a target-specific 19-25 nt siRNA 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 ATAD2 shRNA Plasmid (m): sc-141315-SH and ATAD2 shRNA (m) Lentiviral Particles: sc-141315-V as alternate gene silencing products.

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

ATAD2 siRNA (m) is recommended for the inhibition of ATAD2 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 ATAD2 gene expression knockdown using RT-PCR Primer: ATAD2 (m)-PR: sc-141315-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.