SANTA CRUZ BIOTECHNOLOGY, INC.

ARA70 siRNA (m): sc-29720

BACKGROUND

Androgen receptor (AR) coactivator ARA70, also designated RFG and ELE1, is a putative co-activator that specifically enhances the activity of the androgen receptor. In human thyroid carcinomas, the Ret proto-oncogene fuses to ARA70 to form Ret/PTC3 by an intrachromosomal inversion of chromosome 10 *in vivo*. ARA70 is expressed as two isoforms, ARA70a and ARA70b. The shorter variant, ARA70b, results from an internal 985-bp deletion. ARA70a is widely expressed, and its expression is highest in testis and adipose tissues, whereas ARA70b is solely expressed in the testis. ARA70a can function as a ligand-enhanced co-activator of PPARγ in adipocytes. However, PPARγ-ARA70 transactivation can be squelched by AR, which suggests cross talk between PPARγ- and AR-mediated response. ARA70a has no intrinsic transcription activation domain or histone acetyltransferase activity, but it interacts with histone acetyltransferase, p/CAF, CBP and p300/CBP-associated factors, and the basal transcription factor TFIIB. The interaction between ARA70 and AR occurs through the ligand-binding domain. The presence of ARA70 can enhance the androgenic activity of 17-β estradiol (E2) and antiandrogens toward AR. ARA70 may be involved in prostate carcinogenesis and ovarian cancer and may serve as a key mediator of estrogen-androgen synergism.

REFERENCES

1. Santoro, M., et al. 1994. Molecular characterization of RET/PTC3: a novel rearranged version of the RET proto-oncogene in a human thyroid papillary carcinoma. Oncogene 9: 509-516.
2. Bongarzone, I., et al. 1994. Frequent activation of RET protooncogene by fusion with a new activating gene in papillary thyroid carcinomas. Cancer Res. 54: 2979-2985.
3. Alen, P., et al. 1999. Interaction of the putative androgen receptor-specific coactivator ARA70/ELE1α with multiple steroid receptors and identification of an internally deleted ELE1β isoform. Mol. Endocrinol. 13: 117-128.
4. Yeh, S., et al. 1999. Differential induction of androgen receptor transactivation by different androgen receptor coactivators in human prostate cancer DU145 cells. Endocrine 11: 195-202.
5. Heinlein, C.A., et al. 1999. Identification of ARA70 as a ligand-enhanced coactivator for the peroxisome proliferator-activated receptor γ. J. Biol. Chem. 274: 16147-16152.

CHROMOSOMAL LOCATION

Genetic locus: Ncoa4 (mouse) mapping to 14 B.

PRODUCT

ARA70 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 ARA70 shRNA Plasmid (m): sc-29720-SH and ARA70 shRNA (m) Lentiviral Particles: sc-29720-V as alternate gene silencing products.

For independent verification of ARA70 (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-29720A, sc-29720B and sc-29720C.

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

ARA70 siRNA (m) is recommended for the inhibition of ARA70 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

ARA70 (C-4): sc-373739 is recommended as a control antibody for monitoring of ARA70 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 ARA70 gene expression knockdown using RT-PCR Primer: ARA70 (m)-PR: sc-29720-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhang, Z., et al. 2021. Dihydroartemisinin alleviates hepatic fibrosis through inducing ferroptosis in hepatic stellate cells. Biofactors. E-published.

RESEARCH USE

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