SANTA CRUZ BIOTECHNOLOGY, INC.

AR siRNA (h): sc-29204

BACKGROUND

Androgens exhibit a wide range of effects on the development, maintenance and regulation of male phenotype and male reproductive physiology. The androgen receptor (AR) is a member of the steroid superfamily of ligand-dependent transcription factors. ARs bind the two biologically active androgens, testosterone (T) and dihydrotestosterone (DHT), with high and nearly identical affinities; however, the rates of association and dissociation of T are about three times more rapid than those of DHT. This difference has resulted in speculation as to whether these differences in binding kinetics could account for the different physiological effects of T and DHT. A striking feature of AR is its rapid degradation in the absence of ligand. It is now well established that androgen binding results in an at least six-fold increase in androgen stability and that ligand-induced stabilization of AR is highly androgen-specific.

CHROMOSOMAL LOCATION

Genetic locus: AR (human) mapping to Xq12.

PRODUCT

AR siRNA (h) is a pool of 4 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 AR shRNA Plasmid (h): sc-29204-SH and AR shRNA (h) Lentiviral Particles: sc-29204-V as alternate gene silencing products.

For independent verification of AR (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-29204A, sc-29204B, sc-29204C and sc-29204D.

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

AR siRNA (h) is recommended for the inhibition of AR 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.

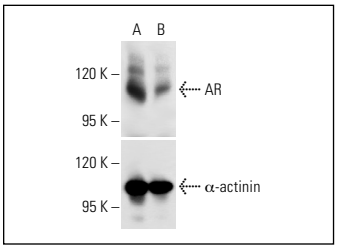
GENE EXPRESSION MONITORING

AR (441): sc-7305 is recommended as a control antibody for monitoring of AR 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor AR gene expression knockdown using RT-PCR Primer: AR (h)-PR: sc-29204-PR (20 µl, 380 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



AR siRNA (h): sc-29204. Western blot analysis of AR expression in non-transfected control (**A**) and AR siRNA transfected (**B**) MCF7 cells. Blot probed with AR (441): sc-7305. α-actinin (H-2): sc-17829 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Estrada, M., et al. 2006. Ca^{2+} oscillations induced by testosterone enhance neurite outgrowth. J. Cell Sci. 119: 733-743.
2. Koochekpour, S., et al. 2014. Androgen receptor mutations and polymorphisms in African American prostate cancer. Int. J. Biol. Sci. 10: 643-651.
3. Reddy, V., et al. 2015. Atm inhibition potentiates death of androgen receptor-inactivated prostate cancer cells with telomere dysfunction. J. Biol. Chem. 290: 25522-25533.
4. Berrak, O., et al. 2016. mTOR is a fine tuning molecule in CDK inhibitors-induced distinct cell death mechanisms via PI3K/AKT/mTOR signaling axis in prostate cancer cells. Apoptosis 21: 1158-1178.
5. Morra, F., et al. 2017. The combined effect of USP7 inhibitors and PARP inhibitors in hormone-sensitive and castration-resistant prostate cancer cells. Oncotarget 8: 31815-31829.
6. Nerlakanti, N., et al. 2018. Targeting the BRD4-HOXB13 coregulated transcriptional networks with bromodomain-kinase inhibitors to suppress metastatic castration-resistant prostate cancer. Mol. Cancer Ther. 17: 2796-2810.
7. Di Donato, M., et al. 2019. Nerve growth factor induces proliferation and aggressiveness in prostate cancer cells. Cancers 11: 784.

RESEARCH USE

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