

SRD5A2L siRNA (h): sc-89215

BACKGROUND

Androgens play an essential role in prostate development, growth and pathogenesis of benign prostate hyperplasia, and prostate cancer, which is the leading cause of cancer death in American males. SRD5A2L (steroid 5- α -reductase 2-like), also known as SRD5A2L1, SRD5A3 or 3-oxo-5- α -steroid 4-dehydrogenase 3, is a 318 amino acid microsomal multi-pass membrane protein belonging to the steroid 5- α reductase family. SRD5A2L is overexpressed in hormone-refractory prostate cancers (HRPC), with almost no or little expression in normal adult organs. SRD5A2L converts testosterone into 5- α -dihydrotestosterone (DHT), indicating that SRD5A2L is associated with DHT production and maintenance of androgen-androgen receptor-pathway activation in HRPC cells. SRD5A2L is considered a novel protein target for prostate cancer therapy.

REFERENCES

- Negri-Cesi, P., et al. 1999. 5 α -reductase isozymes and aromatase are differentially expressed and active in the androgen-independent human prostate cancer cell lines DU145 and PC3. *Prostate* 41: 224-232.
- Steers, W.D. 2001. 5 α -reductase activity in the prostate. *Urology* 58: 17-24.
- Bartsch, G., et al. 2002. Dihydrotestosterone and the concept of 5 α -reductase inhibition in human benign prostatic hyperplasia. *World J. Urol.* 19: 413-425.
- Zhu, Y.S., et al. 2003. Androgen-induced prostate-specific antigen gene expression is mediated via dihydrotestosterone in LNCaP cells. *J. Androl.* 24: 681-687.
- Uemura, M., et al. 2008. Novel 5 α -steroid reductase (SRD5A3, type-3) is overexpressed in hormone-refractory prostate cancer. *Cancer Sci.* 99: 81-86.

CHROMOSOMAL LOCATION

Genetic locus: SRD5A3 (human) mapping to 4q12.

PRODUCT

SRD5A2L 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SRD5A2L shRNA Plasmid (h): sc-89215-SH and SRD5A2L shRNA (h) Lentiviral Particles: sc-89215-V as alternate gene silencing products.

For independent verification of SRD5A2L (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-89215A, sc-89215B and sc-89215C.

RESEARCH USE

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SRD5A2L siRNA (h) is recommended for the inhibition of SRD5A2L 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 μ M in 66 μ l. 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 SRD5A2L gene expression knockdown using RT-PCR Primer: SRD5A2L (h)-PR: sc-89215-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.