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ES siRNA (h): sc-45269

BACKGROUND

Estrone sulfatase (ES) is an enzymatic homodimer associated with the endoplasmic reticulum membrane, stimulated by retinoids, and responsible for the conversion of sulfated steroid precursors into bioactive estrogens during pregnancy. High expression levels have been reported in breast carcinoma and acute promyelocytic leukemia, as ES supports tumor growth. Therefore, ES is currently a potential drug target in the treatment of estrogen- and androgen-dependent diseases. Many studies have reported on the effects of reversible and irreversible ES activity inhibition from a wide array of molecules, though the little is known about the regulation of ES expression or activity. Mutations in the ES gene result in X-linked ichthyosis, a diskernization disorder characterized by the presence of prominent scales.

REFERENCES

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- Hughes, P.J., et al. 2006. Retinoid-mediated stimulation of steroid sulfatase activity in myeloid leukemic cell lines requires RAR α and RXR and involves the phosphoinositide 3-kinase and ERK-MAP kinase pathways. *J. Cell. Biochem.* 97: 327-350.

CHROMOSOMAL LOCATION

Genetic locus: STS (human) mapping to Xp22.31.

PRODUCT

ES 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 ES shRNA Plasmid (h): sc-45269-SH and ES shRNA (h) Lentiviral Particles: sc-45269-V as alternate gene silencing products.

For independent verification of ES (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-45269A, sc-45269B and sc-45269C.

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

ES siRNA (h) is recommended for the inhibition of ES 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 ES gene expression knockdown using RT-PCR Primer: ES (h)-PR: sc-45269-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.

PROTOCOLS

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