SANTA CRUZ BIOTECHNOLOGY, INC.

RORα3 siRNA (h): sc-38868

BACKGROUND

Retinoids are metabolites of vitamin A (retinol) and represent an important class of signaling molecule during vertebrate development and tissue differentiation. A large group of nuclear transcription factors, including vitamin D_3 receptor (VDR), thyroid hormone receptor (TR), RAR, RXR and ecdysone receptor, have a high affinity for retinoic acids and are members of the steroid receptor superfamily. This family acts by directly associating with DNA sequences known as hormone response elements (HREs) and bind DNA as either homo- or heterodimers. RORα is a member of the steroid receptor superfamily and is classified as an "orphan receptor" due to the lack of a defined ligand. Two isoforms of RORα have been described and are designated RORα1 and RORα2. RORα, also referred to as RZR, binds DNA as a monomer at consensus RORα response elements (ROREs).

REFERENCES

1. Koelle, M.R., et al. 1991. The *Drosophila* EcR gene encodes an ecdysone receptor, a new member of the steroid receptor superfamily. Cell 67: 59-77.
2. Bhat, M.K., et al. 1994. Phosphorylation enhances the target gene sequence-dependent dimerization of thyroid hormone receptor with retinoid X receptor. Proc. Natl. Acad. Sci. USA 91: 7927-7931.
3. Mangelsdorf, D.J., et al. 1994. The retinoid receptors. In Sporn, M.B., et al, eds. The Retinoids: Biology, Chemistry, and Medicine. New York: Raven Press, Ltd., 319-349.
4. Mangelsdorf, D.J., et al. 1995. The nuclear receptor superfamily: the second decade. Cell 83: 835-839.
5. Leblanc, B.P., et al. 1995. 9-*cis* retinoic acid signaling: changing partners causes some excitement. Genes Dev. 9: 1811-1816.
6. Mangelsdorf, D.J., et al. 1995. The RXR heterodimers and orphan receptors. Cell 83: 841-850.
7. Giguere, V., et al. 1995. Determinants of target gene specificity for RORα1: monomeric DNA binding by an orphan nuclear receptor. Mol. Cell. Biol. 15: 2517-2526.
8. Schrader, M., et al. 1996. Identification of natural monomeric response elements of the nuclear receptor RZR/ROR. They also bind COUP-TF homodimers. J. Biol. Chem. 271: 19732-19736.

CHROMOSOMAL LOCATION

Genetic locus: RORA (human) mapping to 15q22.2.

PRODUCT

RORα3 siRNA (h) 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 RORα3 shRNA Plasmid (h): sc-38868-SH and RORα3 shRNA (h) Lentiviral Particles: sc-38868-V as alternate gene silencing products.

RESEARCH USE

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

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

RORα3 siRNA (h) is recommended for the inhibition of RORα3 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 RORα3 gene expression knockdown using RT-PCR Primer: RORα3 (h)-PR: sc-38868-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. Song, H., et al. 2020. Isoform-specific lysine methylation of RORα2 by SETD7 is required for association of the TIP60 coactivator complex in prostate cancer progression. Int. J. Mol. Sci. 21 pii: E1622.

PROTOCOLS

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