

TR4 siRNA (m): sc-38895

BACKGROUND

The human TR2 orphan receptor is a member of the steroid/thyroid hormone receptor superfamily that controls a variety of processes, including growth, differentiation and development. TR2 is known to bind to regulatory elements of the erythropoietin gene, the muscle-specific aldolase A gene and the CNTF-15 gene. In addition to TR2, a related orphan receptor, TR4 has been identified. This protein forms heterodimers with TR2, which are thought to be involved in neurogenesis and germ cell development. TR2 is known to be downregulated by both p53 and ionizing radiation, and it may play a role in linking p53 to members of the steroid receptor family.

REFERENCES

1. Chang, C., et al. 1994. Human and rat TR4 orphan receptors specify a subclass of the steroid receptor superfamily. *Proc. Natl. Acad. Sci. USA* 91: 6040-6044.
2. Lee, H.J., et al. 1996. Suppression of the human erythropoietin gene expression by the TR2 orphan receptor, a member of the steroid receptor superfamily. *J. Biol. Chem.* 271: 10405-10412.
3. Lin, D.L., et al. 1996. p53 is a mediator for radiation-repressed human TR2 orphan receptor expression in MCF-7 cells, a new pathway from tumor suppressor to member of the steroid receptor superfamily. *J. Biol. Chem.* 271: 14649-14652.
4. Chang, C., et al. 1997. Identification of the human aldolase A gene as the first induced target for the TR2 orphan receptor, a member of the steroid hormone receptor superfamily. *Biochem. Biophys. Res. Commun.* 235: 205-211.

CHROMOSOMAL LOCATION

Genetic locus: Nr2c2 (mouse) mapping to 6 D1.

PRODUCT

TR4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TR4 shRNA Plasmid (m): sc-38895-SH and TR4 shRNA (m) Lentiviral Particles: sc-38895-V as alternate gene silencing products.

For independent verification of TR4 (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-38895A, sc-38895B and sc-38895C.

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

TR4 siRNA (m) is recommended for the inhibition of TR4 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 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.

GENE EXPRESSION MONITORING

TR4 (D-5): sc-365895 is recommended as a control antibody for monitoring of TR4 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 TR4 gene expression knockdown using RT-PCR Primer: TR4 (m)-PR: sc-38895-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Du, L., et al. 2013. Evidence for orphan nuclear receptor TR4 in the etiology of Cushing disease. *Proc. Natl. Acad. Sci. USA* 110: 8555-8560.

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.