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SANTA CRUZ BIOTECHNOLOGY, INC.

NR2E3 siRNA (m): sc-45727

BACKGROUND

Photoreceptor-specific nuclear receptor, also known as NR2E3 or PNR, belongs to a large family of nuclear hormone receptor transcription factors. The proteins belonging to this family are characterized by discrete domains functioning in DNA and ligand binding. NR2E3 has a role in regulating the signaling pathway elemental to the photoreceptor cell function and in regulating pathways involved in embryonic development. NR2E3 is an eye specific nuclear protein found in the outer nuclear layer of the adult retina (where the nuclei of cone and rod photoreceptors are located). Defects in this gene encoding for the protein, which localizes to chromosome 15q22.32, cause enhanced S cone syndrome.

REFERENCES

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3. Kobayashi, M., et al. 1999. Identification of a photoreceptor cell-specific nuclear receptor. Proc. Natl. Acad. Sci. USA 96: 4814-4819.
4. Akhmedov, N.B., et al. 2000. A deletion in a photoreceptor-specific nuclear receptor mRNA causes retinal degeneration in the rd7 mouse. Proc. Natl. Acad. Sci. USA 97: 5551-5556.
5. Rendtorff, N.D., et al. 2000. Assignment of the NR2E3 gene to mouse chromosome 9 and to human chromosome 15q22.33→q23. Cytogenet. Cell Genet. 89: 279-280.
6. Haider, N.B., et al. 2001. Excess cone cell proliferation due to lack of a functional NR2E3 causes retinal dysplasia and degeneration in rd7/rd7 mice. Hum. Mol. Genet. 10: 1619-1626.
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CHROMOSOMAL LOCATION

Genetic locus: Nr2e3 (mouse) mapping to 9 B.

PRODUCT

NR2E3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NR2E3 shRNA Plasmid (m): sc-45727-SH and NR2E3 shRNA (m) Lentiviral Particles: sc-45727-V as alternate gene silencing products.

For independent verification of NR2E3 (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-45727A, sc-45727B and sc-45727C.

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

NR2E3 siRNA (m) is recommended for the inhibition of NR2E3 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 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

NR2E3 (B-4): sc-374513 is recommended as a control antibody for monitoring of NR2E3 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 NR2E3 gene expression knockdown using RT-PCR Primer: NR2E3 (m)-PR: sc-45727-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.