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PXR siRNA (h): sc-44057

BACKGROUND

Steroid hormones function as signaling molecules by diffusing into cells and interacting with specific intracellular receptors to regulate gene expression. This superfamily of receptors includes both steroid and nonsteroid receptors. Like many nonsteroid hormone receptors, PXR (pregnane X receptor) binds as a heterodimer with RXR to a DNA sequence typical of a nonsteroid hormone receptor; however, PXR is activated by several steroids, such as naturally occurring pregnanes and synthetic glucocorticoids and anti-glucocorticoids. PXR exists as two alternatively spliced isoforms, PXR.1 and PXR.2. PXR is thought to define a novel steroid hormone signaling pathway that may account for some of the effects of synthetic glucocorticoids and antiglucocorticoids that are not mediated through the classical glucocorticoid receptor signaling pathway.

REFERENCES

- Evans, R.M. 1988. The steroid and thyroid hormone receptor superfamily. *Science* 240: 889-895.
- Mangelsdorf, D.J., et al. 1995. The RXR heterodimers and orphan receptors. *Cell* 83: 841-850.
- Beato, M., et al. 1995. Steroid hormone receptors: many actors in search of a plot. *Cell* 83: 851-857.

CHROMOSOMAL LOCATION

Genetic locus: NR112 (human) mapping to 3q13.33.

PRODUCT

PXR 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 PXR shRNA Plasmid (h): sc-44057-SH and PXR shRNA (h) Lentiviral Particles: sc-44057-V as alternate gene silencing products.

For independent verification of PXR (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-44057A, sc-44057B and sc-44057C.

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

PXR siRNA (h) is recommended for the inhibition of PXR 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.

GENE EXPRESSION MONITORING

PXR (G-11): sc-48403 is recommended as a control antibody for monitoring of PXR 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 PXR gene expression knockdown using RT-PCR Primer: PXR (h)-PR: sc-44057-PR (20 μ l, 479 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Rigalli, J.P., et al. 2011. Pregnane X receptor mediates the induction of P-glycoprotein by spironolactone in HepG2 cells. *Toxicology* 285: 18-24.
- Xue, M., et al. 2011. Activated protein C enhances human keratinocyte barrier integrity via sequential activation of epidermal growth factor receptor and Tie2. *J. Biol. Chem.* 286: 6742-6750.
- Rigalli, J.P., et al. 2012. Regulation of biotransformation systems and ABC transporters by benzimidazole in HepG2 cells: involvement of pregnane X-receptor. *PLoS Negl. Trop. Dis.* 6: e1951.
- Dou, W., et al. 2013. Chrysin ameliorates chemically induced colitis in the mouse through modulation of a PXR/NF κ B signaling pathway. *J. Pharmacol. Exp. Ther.* 345: 473-482.
- Castillo, R.R., et al. 2017. Recent applications of the combination of mesoporous silica nanoparticles with nucleic acids: development of bioresponsive devices, carriers and sensors. *Biomater. Sci.* 5: 353-377.

RESEARCH USE

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