

MB67 siRNA (h): sc-39918

BACKGROUND

The CAR "constitutively acting receptor" proteins, CAR1 and CAR2, are mouse nuclear hormone receptors. CAR1 and CAR2, along with their human homolog, MB67, are in highest expression in the liver and belong to a group of receptors known as orphan receptors due to their lack of a known ligand. Unlike conventional hormone receptors which activate transcription upon binding with steroids, retinoids, and thyroid hormones, the CAR and MB67 orphan receptors are transcriptionally active in the absence of exogenous hormone. The CAR and MB67 orphan receptors bind to DNA in the form of a heterodimer with the retinoic-X receptor and activate gene transcription in a constitutive manner.

REFERENCES

1. Davies, P. and Rushmere, N.K. 1988. The structure and function of steroid receptors. *Sci. Prog.* 72: 563-578.
2. Baes, M., et al. 1994. A new orphan member of the nuclear hormone receptor superfamily that interacts with a subset of retinoic acid response elements. *Mol. Cell. Biol.* 14: 1544-1551.
3. Mangelsdorf, D.J. and Evans, R.M. 1995. The RXR heterodimers and orphan receptors. *Cell* 83: 841-850.
4. Choi, H.S., et al. 1997. Differential transactivation by two isoforms of the orphan nuclear hormone receptor CAR. *J. Biol. Chem.* 272: 23565-23571.
5. Forman, B.M., et al. 1998. Androstane metabolites bind to and deactivate the nuclear receptor CAR- β . *Nature* 395: 612-615.

CHROMOSOMAL LOCATION

Genetic locus: NR1I3 (human) mapping to 1q23.3.

PRODUCT

MB67 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 MB67 shRNA Plasmid (h): sc-39918-SH and MB67 shRNA (h) Lentiviral Particles: sc-39918-V as alternate gene silencing products.

For independent verification of MB67 (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-39918A, sc-39918B and sc-39918C.

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

MB67 siRNA (h) is recommended for the inhibition of MB67 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MB67 gene expression knockdown using RT-PCR Primer: MB67 (h)-PR: sc-39918-PR (20 μ l, 532 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2014. The inhibition of constitutive androstane receptor-mediated pathway enhances the effects of anticancer agents in ovarian cancer cells. *Biochem. Pharmacol.* 90: 356-366.
2. Masuyama, H., et al. 2016. Inhibition of pregnane X receptor pathway contributes to the cell growth inhibition and apoptosis of anticancer agents in ovarian cancer cells. *Int. J. Oncol.* 49: 1211-1220.

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.