SANTA CRUZ BIOTECHNOLOGY, INC.

MCR siRNA (m): sc-38837

BACKGROUND

Mineralocorticoid hormones are primarily found in epithelial tissues where they function as regulators of Na^+, K^+ and H^+ ion transport. Aldosterone is a mineralocorticoid that has been shown to regulate electrolyte excretion and intravascular volume and is therefore involved in blood pressure regulation. Mineralocorticoid receptor (MCR or MR) is a member of the steroid/thyroid/retinoic nuclear hormone receptor superfamily that has been shown to activate gene transcription in response to aldosterone binding. Regulation of the mineralocorticoid receptors occurs through either receptor down-regulation (negative autoregulation) or hormone-mediated upregulation (positive autoregulation). MCR association with HSP 90 appears to be required for hormone binding to MCR and subsequent MCR activation.

REFERENCES

1. Arriza, J.L., et al. 1987. Cloning of human mineralocorticoid receptor complementary DNA: structural and functional kinship with the glucocorticoid receptor. Science 237: 268-275.
2. Johnson, J.P. 1992. Cellular mechanisms of action of mineralocorticoid hormones. Pharmacol. Ther. 53: 1-29.
3. Schmidt, T.U., et al. 1994. Autoregulation of corticosteroid receptors. How, when, where, and why? Receptor 4: 229-257.
4. White, P.C. 1996. Inherited forms of mineralocorticoid hypertension. Hypertension 28: 927-936.
5. Bamberger, C.M., et al. 1997. Inhibition of mineralocorticoid and glucocorticoid receptor function by the heat shock protein 90-binding agent geldanamycin. Mol. Cell. Endocrinol. 131: 233-240.
6. Kumar, M.V., et al. 1998. Transcriptional regulation of the steroid receptor genes. Prog. Nucl. Acid Res. Mol. Biol. 59: 289-306.

CHROMOSOMAL LOCATION

Genetic locus: NR3C2 (human) mapping to 4q31; Nr3c2 (mouse) mapping to 8 C1.

PRODUCT

MCR siRNA (m) is a target-specific 20-25 nt siRNA designed to knock down gene expression. Each vial contains 3 nmoles of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections.

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

MCR siRNA (m) is recommended for the inhibition of MCR expression in mouse cells.

MCR (C-19): sc-6861 is recommended as a control antibody for Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) protein detection using the recommended secondary reagents listed below.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 siRNA (Fluorescein Conjugate): sc-36869 (10 µM in 60 µl) or Control siRNA: sc-37007 (10 µM in 60 µl) are also available. Semi-quantitative RT-PCR may be performed using RT-PCR Primer: MCR (m)-PR: sc-38837-PR (20 µl).

RESEARCH USE

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

PROTOCOLS

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