SANTA CRUZ BIOTECHNOLOGY, INC.

GREB1 siRNA (m): sc-145759

BACKGROUND

GREB1 (gene regulated in breast cancer 1 protein), is a 1,949 amino acid single-pass membrane protein that is expressed in proliferating prostatic tissue and prostate cancer and is strongly upregulated by 17-β-Estradiol. It is suggested that GREB1 may have an important role in hormone-responsive tissues and cancer. Regulated by androgens, GREB1 is critically involved in the estrogen induced proliferation in breast cancer cells. GREB1 is a potential clinical marker for response to endocrine therapy and as a potential therapeutic target. Four isoforms exists due to alternative splicing events.

REFERENCES

1. Ghosh, M.G., et al. 2000. PDZK1 and GREB1 are estrogen-regulated genes expressed in hormone-responsive breast cancer. Cancer Res. 60: 6367-6375.
2. Lin, C.Y., et al. 2004. Discovery of estrogen receptor α target genes and response elements in breast tumor cells. Genome Biol. 5: R66.
3. Rae, J.M., et al. 2005. GREB1 is a critical regulator of hormone dependent breast cancer growth. Breast Cancer Res. Treat. 92: 141-149.
4. Wilson, C.L., et al. 2006. Effects of oestrogen on gene expression in epithelium and stroma of normal human breast tissue. Endocr. Relat. Cancer. 13: 617-628.
5. Jensen, K.A., et al. 2006. A truncated Ah receptor blocks the hypoxia and estrogen receptor signaling pathways: a viable approach for breast cancer treatment. Mol. Pharm. 3: 695-703.
6. Rae, J.M., et al. 2006. GREB1 is a novel androgen-regulated gene required for prostate cancer growth. Prostate. 66: 886-894.
7. Deschênes, J., et al. 2007. Regulation of GREB1 transcription by estrogen receptor α through a multipartite enhancer spread over 20 kb of upstream flanking sequences. J. Biol. Chem. 282: 17335-17339.

CHROMOSOMAL LOCATION

Genetic locus: Greb1 (mouse) mapping to 12 A1.1.

PRODUCT

GREB1 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 GREB1 shRNA Plasmid (m): sc-145759-SH and GREB1 shRNA (m) Lentiviral Particles: sc-145759-V as alternate gene silencing products.

For independent verification of GREB1 (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-145759A, sc-145759B and sc-145759C.

PROTOCOLS

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

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

GREB1 siRNA (m) is recommended for the inhibition of GREB1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GREB1 gene expression knockdown using RT-PCR Primer: GREB1 (m)-PR: sc-145759-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.