SANTA CRUZ BIOTECHNOLOGY, INC.

BRE siRNA (m): sc-60289

BACKGROUND

Brain and reproductive organ-expressed protein (BRE) is a 415 amino acid protein which binds to the intracellular juxtamembrane domain of the death receptor, tumor necrosis factor receptor 1 (TNF-R1). BRE also binds to the death receptor, FAS. BRE downregulates TNFα-induced activation of NFκB and may play a role in homeostasis or cellular differentiation in cells of epithelial, neural and germ line origins. It inhibits components of the death-inducing signaling complexes that are necessary for activation of the mitochondria, thereby mediating apoptosis. BRE is strongly expressed in the adrenal cortex, medulla, testis and pancreas, and is weakly expressed in the thymus, thyroid, stomach and small intestine. The BRE gene is responsive to DNA-damaging agents in fibroblasts, LPS in peripheral blood mononuclear cells (PBMC), and by retinoic acid in brain gloima.

REFERENCES

1. Li, L., et al. 1995. Identification of a brain and reproductive organs-specific gene responsive to DNA damage and retinoic acid. Biochem. Biophys. Res. Commun. 206: 764-774.
2. Gu, C., et al. 1998. BRE: a modulator of TNF-α action. FASEB J. 12: 1101-1108.
3. Chan, B.C., et al. 2004. BRE enhances *in vivo* growth of tumor cells. Biochem. Biophys. Res. Commun. 326: 268-273.
4. Li, Q., et al. 2004. A death receptor-associated anti-apoptotic protein, BRE, inhibits mitochondrial apoptotic pathway. J. Biol. Chem. 279: 52106-52116.
5. Miao, J., et al. 2005. Blocking BRE expression in Leydig cells inhibits steroidogenesis by down 3β-hydroxysteroid dehydrogenase. J. Endocrinol. 185: 507-517.

CHROMOSOMAL LOCATION

Genetic locus: Bre (mouse) mapping to 5 B1.

PRODUCT

BRE 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 BRE shRNA Plasmid (m): sc-60289-SH and BRE shRNA (m) Lentiviral Particles: sc-60289-V as alternate gene silencing products.

For independent verification of BRE (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-60289A, sc-60289B and sc-60289C.

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.

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

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

BRE (D-2): sc-376453 is recommended as a control antibody for monitoring of BRE 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 BRE gene expression knockdown using RT-PCR Primer: BRE (m)-PR: sc-60289-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.