SANTA CRUZ BIOTECHNOLOGY, INC.

EBPL siRNA (h): sc-105318

BACKGROUND

EBPL (emopamil-binding protein-like), also known as EBRP or ERP, exists as 5 alternatively spliced isoforms with the largest being 206 amino acids in length. EBPL is expressed as a homodimer with high levels found in liver, lung and kidney. As a transmembrane protein embedded on the endoplasmic reticulum, EBPL may function as a cholestenol δ-isomerase. The gene encoding EBPL is found on human chromosome 13. Comprising nearly 4% of the human genome, chromosome 13 contains around 114 million base pairs and encodes over 400 genes. Chromosome 13 houses key tumor suppressor genes, including BRCA2 and RB1, which are associated with breast cancer susceptibility and retinoblastoma, respectively. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Silve, S., et al. 1996. Emopamil-binding protein, a mammalian protein that binds a series of structurally diverse neuroprotective agents, exhibits Δ8-Δ7 sterol isomerase activity in yeast. J. Biol. Chem. 271: 22434-22440.
2. Moebius, F.F., et al. 1998. Pharmacological analysis of sterol Δ8-Δ7 isomerase proteins with [^{3}H]ifenprodil. Mol. Pharmacol. 54: 591-598.
3. Grebenok, R.J., et al. 1998. Isolation and characterization of an *Arabidopsis thaliana* C-8,7 sterol isomerase: functional and structural similarities to mammalian C-8,7 sterol isomerase/emopamil-binding protein. Plant Mol. Biol. 38: 807-815.
4. König, A., et al. 2000. Mutations in the NSDHL gene, encoding a 3β-hydroxysteroid dehydrogenase, cause CHILD syndrome. Am. J. Med. Genet. 90: 339-346.
5. Bae, S., et al. 2001. Cholesterol biosynthesis from lanosterol: molecular cloning, chromosomal localization, functional expression and liver-specific gene regulation of rat sterol Δ8-isomerase, a cholesterogenic enzyme with multiple functions. Biochem. J. 353: 689-699.
6. Moebius, F.F., et al. 2003. Cloning of an emopamil-binding protein (EBP)-like protein that lacks sterol Δ8-Δ7 isomerase activity. Biochem. J. 374: 229-237.

CHROMOSOMAL LOCATION

Genetic locus: EBPL (human) mapping to 13q14.2.

PRODUCT

EBPL 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EBPL shRNA Plasmid (h): sc-105318-SH and EBPL shRNA (h) Lentiviral Particles: sc-105318-V as alternate gene silencing products.

For independent verification of EBPL (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-105318A, sc-105318B and sc-105318C.

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

EBPL siRNA (h) is recommended for the inhibition of EBPL 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 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 EBPL gene expression knockdown using RT-PCR Primer: EBPL (h)-PR: sc-105318-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.

PROTOCOLS

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