SANTA CRUZ BIOTECHNOLOGY, INC.

EF-HB siRNA (m): sc-143310

BACKGROUND

The EF-hand domain is a 12 amino acid loop motif that is commonly found in proteins that participate in calcium-binding events within the cell. EF-hand domains generally exist in a pair that, together, form a stable four-helix bundle that enables the binding of calcium ions. EF-HB (EF-hand domain-containing family member B) is a 831 amino acid protein that contains two EF-hand domains, suggesting a role in calcium-mediated events throughout the cell. There are three isoforms of EF-HB that are produced as a result of alternative splicing events. The gene encoding EF-HB is located on human chromosome 3, which is made up of about 214 million bases encoding over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Other well-studied calcium binding proteins that contain EF-hand motifs include calmodulin (CaM), Troponin C, myosin regulatory light chain (MYL) and S-100 proteins.

REFERENCES

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3. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. Mol. Biol. 37: 194-211.
4. Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. Genomics 83: 193-202.
5. Santamaria-Kisiel, L., et al. 2006. Calcium-dependent and -independent interactions of the S100 protein family. Biochem. J. 396: 201-214.
6. Capozzi, F., et al. 2006. EF-hand protein dynamics and evolution of calcium signal transduction: an NMR view. J. Biol. Inorg. Chem. 11: 949-962.
7. Grabarek, Z. 2006. Structural basis for diversity of the EF-hand calcium-binding proteins. J. Mol. Biol. 359: 509-525.
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CHROMOSOMAL LOCATION

Genetic locus: Efhb (mouse) mapping to 17 C.

PRODUCT

EF-HB siRNA (m) is a target-specific 19-25 nt siRNA 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 EF-HB shRNA Plasmid (m): sc-143310-SH and EF-HB shRNA (m) Lentiviral Particles: sc-143310-V as alternate gene silencing products.

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

EF-HB siRNA (m) is recommended for the inhibition of EF-HB 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 EF-HB gene expression knockdown using RT-PCR Primer: EF-HB (m)-PR: sc-143310-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.