

## EF-CAB1 siRNA (m): sc-143300

### BACKGROUND

Made up of nearly 146 million bases, chromosome 8 encodes about 800 genes. Translocation of portions of chromosome 8 with amplifications of the c-Myc gene are found in some leukemias and lymphomas, and are typically associated with a poor prognosis. Portions of chromosome 8 have been linked to schizophrenia and bipolar disorder. Chromosome 8 is also associated with Pfeiffer syndrome, congenital hypothyroidism and Waardenburg syndrome. The gene encoding EF-CAB1 (EF-hand calcium-binding domain-containing peptide protein 1) is located on the long arm of chromosome 8. This 211 amino acid protein contains three EF-hand domains, which are helix-loop-helix structures that are usually found in calcium binding proteins. 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

1. Heutink, P., et al. 1995. The genetic background of craniosynostosis syndromes. *Eur. J. Hum. Genet.* 3: 312-323.
2. Beyer, V., et al. 2005. Polysomy 8 defines a clinico-cytogenetic entity representing a subset of myeloid hematologic malignancies associated with a poor prognosis: report on a cohort of 12 patients and review of 105 published cases. *Cancer Genet. Cytogenet.* 160: 97-119.
3. Morgan, R.O., et al. 2006. Deciphering function and mechanism of calcium-binding proteins from their evolutionary imprints. *Biochim. Biophys. Acta* 1763: 1238-1249.
4. Lakowski, T.M., et al. 2007. Peptide binding by a fragment of calmodulin composed of EF-hands 2 and 3. *Biochemistry* 46: 8525-8536.
5. Capozzi, F., et al. 2007. Essential dynamics of helices provide a functional classification of EF-hand proteins. *J. Proteome Res.* 6: 4245-4255.

### CHROMOSOMAL LOCATION

Genetic locus: Efcab1 (mouse) mapping to 16 A1.

### PRODUCT

EF-CAB1 siRNA (m) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EF-CAB1 shRNA Plasmid (m): sc-143300-SH and EF-CAB1 shRNA (m) Lentiviral Particles: sc-143300-V as alternate gene silencing products.

For independent verification of EF-CAB1 (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-143300A and sc-143300B.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

EF-CAB1 siRNA (m) is recommended for the inhibition of EF-CAB1 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  $\mu$ M in 66  $\mu$ l. 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

EF-CAB1 (B-2): sc-515554 is recommended as a control antibody for monitoring of EF-CAB1 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 EF-CAB1 gene expression knockdown using RT-PCR Primer: EF-CAB1 (m)-PR: sc-143300-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.