SANTA CRUZ BIOTECHNOLOGY, INC.

EF-CAB4B siRNA (m): sc-143304

BACKGROUND

EF-CAB4B (EF-hand calcium-binding domain-containing protein 4B), also known as CRACR2A (calcium release-activated calcium channel regulator 2A), is a 395 amino acid protein belonging to the EF-CAB4 family. Localizing to cytoplasm, EF-CAB4B contains two EF-hand domains and exists as two alternatively spliced isoforms. At low Ca^{2+} concentrations, EF-CAB4B acts as a calcium-sensor, facilitating the clustering of Orai1 and Stim1 at the junctional regions between plasma membrane and endoplasmic reticulum, leading to regulation of CRAC channel activation. The gene encoding EF-CAB4B maps to human chromosome 12p13.32. Encoding over 1,100 genes within 132 million bases, chromosome 12 makes up about 4.5% of the human genome. A number of skeletal deformities are linked to chromosome 12 including hypochondrogenesis, achondrogenesis and Kniest dysplasia.

REFERENCES

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3. Kelley, J., et al. 2005. Comparative genomics of natural killer cell receptor gene clusters. PLoS Genet. 1: 129-139.
4. Lim, J., et al. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. Cell 125: 801-814.
5. Dwyer, E., et al. 2010. Genotype-phenotype correlation in DTDST dysplasias: Atelosteogenesis type II and diastrophic dysplasia variant in one family. Am. J. Med. Genet. A 152A: 3043-3050.
6. Chalasani, N., et al. 2010. Genome-wide association study identifies variants associated with histologic features of nonalcoholic Fatty liver disease. Gastroenterology 139: 1567-1576, 1576.e1-6.
7. Srikanth, S., et al. 2010. A novel EF-hand protein, CRACR2A, is a cytosolic Ca^{2+} sensor that stabilizes CRAC channels in T cells. Nat. Cell Biol. 12: 436-446.

CHROMOSOMAL LOCATION

Genetic locus: Efcab4b (mouse) mapping to 6 F3.

PRODUCT

EF-CAB4B 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-CAB4B shRNA Plasmid (m): sc-143304-SH and EF-CAB4B shRNA (m) Lentiviral Particles: sc-143304-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-CAB4B siRNA (m) is recommended for the inhibition of EF-CAB4B 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-CAB4B gene expression knockdown using RT-PCR Primer: EF-CAB4B (m)-PR: sc-143304-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.