SANTA CRUZ BIOTECHNOLOGY, INC.

EF-HC1 siRNA (m): sc-143311

BACKGROUND

EF-HC1 (EF-hand domain-containing protein 1), also known as Myoclonin-1, is a 640 amino acid protein containing an EF-hand domain and three DM10 domains. Interacting with the C-terminus of R-type Ca^{2+} CP α1E, EF-HC1 may enhance calcium influx and stimulate cell death. EF-HC1 is widely expressed in various tissues, excluding lymphocytes, and exists as three alternatively spliced isoforms. The gene encoding EF-HC1 maps to human chromosome 6p12.2. Mutations in the EF-HC1 gene have been linked to juvenile myoclonic epilepsy-1 (EJM1), a subtype of idiopathic generalized epilepsy with onset occurring during adolescence. EJM1 is characterized by afebrile seizures and myoclonic jerks, triggered by sleep deprivation, fatigue and alcohol consumption.

REFERENCES

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3. Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. Nature 425: 805-811.
4. Suzuki, T., et al. 2004. Mutations in EFHC1 cause juvenile myoclonic epilepsy. Nat. Genet. 36: 842-849.
5. Gu, W., et al. 2005. A new EF-hand containing gene EFHC2 on Xp11.4: tentative evidence for association with juvenile myoclonic epilepsy. Epilepsy Res. 66: 91-98.
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7. Annesi, F., et al. 2007. Mutational analysis of EFHC1 gene in Italian families with juvenile myoclonic epilepsy. Epilepsia 48: 1686-1690.
8. Bartocci, A., et al. 2007. Juvenile myoclonic epilepsy with generalised and focal electroencephalographic abnormalities: a case report with a molecular genetic study. Neurol. Sci. 28: 276-278.

CHROMOSOMAL LOCATION

Genetic locus: Efhc1 (mouse) mapping to 1 A4.

PRODUCT

EF-HC1 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-HC1 shRNA Plasmid (m): sc-143311-SH and EF-HC1 shRNA (m) Lentiviral Particles: sc-143311-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-HC1 siRNA (m) is recommended for the inhibition of EF-HC1 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-HC1 gene expression knockdown using RT-PCR Primer: EF-HC1 (m)-PR: sc-143311-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.