



CALHM3 siRNA (m): sc-143388

BACKGROUND

The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in this level can result in a myriad of physiological responses, most of which are mediated by calmodulin (CaM), the universal calcium sensor. CALHM3 (calcium homeostasis modulator protein 3), also known as FAM26A, is a 350 amino acid multi-pass membrane protein that may be involved in the modulation of calcium signaling stemming from bitter, sweet and umami receptor activation in taste buds. Unlike CALHM1, it is not likely that CALHM3 plays a role in the pathogenesis of Alzheimer's disease. There are two isoforms of CALHM3 that are produced as a result of alternative splicing events. The gene encoding CALHM3 maps to human chromosome 10, which contains over 800 genes and 135 million nucleotides, making up nearly 4.5% of the human genome.

REFERENCES

1. Dreses-Werringloer, U., et al. 2008. A polymorphism in CALHM1 influences Ca^{2+} homeostasis, A β levels, and Alzheimer's disease risk. *Cell* 133: 1149-1161.
2. Lambert, J.C., et al. 2008. CALHM1, a novel gene to blame in Alzheimer disease. *Med. Sci.* 24: 923-924.
3. Tanzi, R.E., et al. 2008. Alzheimer's disease: The latest suspect. *Nature* 454: 706-708.
4. Moyer, B.D., et al. 2009. Expression of genes encoding multi-transmembrane proteins in specific primate taste cell populations. *PLoS ONE*. 4: e7682.
5. Shibata, N., et al. 2010. Genetic association between CALHM1, 2, and 3 polymorphisms and Alzheimer's disease in a Japanese population. *J. Alzheimers Dis.* 20: 417-421.
6. Lambert, J.C., et al. 2010. The CALHM1 P86L polymorphism is a genetic modifier of age at onset in Alzheimer's disease: a meta-analysis study. *J. Alzheimers Dis.* 22: 247-255.
7. Lin, K., et al. 2010. Association between the polymorphisms of CALHM1 and GOLPH2 genes and Alzheimer's disease. *Psychiatr. Genet.* 20: 190.

CHROMOSOMAL LOCATION

Genetic locus: Calhm3 (mouse) mapping to 19 C3.

PRODUCT

CALHM3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CALHM3 shRNA Plasmid (m): sc-143388-SH and CALHM3 shRNA (m) Lentiviral Particles: sc-143388-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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CALHM3 siRNA (m) is recommended for the inhibition of CALHM3 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 μ M in 66 μ 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CALHM3 gene expression knockdown using RT-PCR Primer: CALHM3 (m)-PR: sc-143388-PR (20 μ l). 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.