SANTA CRUZ BIOTECHNOLOGY, INC.

CALHM2 siRNA (h): sc-90780

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. CALHM2 (calcium homeostasis modulator protein 2), also known as FAM26B, is a 323 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 CALHM2 plays a role in the pathogenesis of Alzheimer's disease. There are three isoforms of CALHM2 that are produced as a result of alternative splicing events. The gene encoding CALHM2 maps to human chromosome 10q24.33, 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, Aβ 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. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612235. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Moyer, B.D., et al. 2009. Expression of genes encoding multi-transmembrane proteins in specific primate taste cell populations. PLoS ONE 4: e7682.
6. Lambert, J.C., et al. 2010. The CALHM1 P86L polymorphism is agenetic modifier ofage at onset in Alzheimer's disease: a meta-analysis study. J. Alzheimers Dis. 22: 247-255.

CHROMOSOMAL LOCATION

Genetic locus: CALHM2 (human) mapping to 10q24.33.

PRODUCT

CALHM2 siRNA (h) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CALHM2 shRNA Plasmid (h): sc-90780-SH and CALHM2 shRNA (h) Lentiviral Particles: sc-90780-V as alternate gene silencing products.

For independent verification of CALHM2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-90780A and sc-90780B.

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

CALHM2 siRNA (h) is recommended for the inhibition of CALHM2 expression in human 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 CALHM2 gene expression knockdown using RT-PCR Primer: CALHM2 (h)-PR: sc-90780-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Rodriguez, M., et al. 2021. Upregulation of calcium homeostasis modulators in contractile-to-proliferative phenotypical transition of pulmonary arterial smooth muscle cells. Front. Physiol. 12: 714785.

RESEARCH USE

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