



Calpain 10 siRNA (m): sc-60319

BACKGROUND

The CAPN10 (Calpain 10) gene encodes a ubiquitously expressed member of the Calpain-like cysteine protease family and shows association with type 2 diabetes. Research suggests that Calpain 10 plays a role in an innovative pathway involved in the pathophysiology of diabetes, where Calpain 10 represents the third example of a protease contributing to the advancement of diabetes, the others being prohormone convertase-1 and prohormone-processing carboxypeptidase E, both of which are associated with diabetes and obesity. The CAPN10 human cDNA encodes a 672 amino-acid protein that shares 81.7% identity with the mouse ortholog, and analysis of human cDNA clones displays an intricate pattern of alternative splicing. CAPN10, which presumably plays a role in the regulation of Insulin secretion, is thought to contain a signature of the effects of positive natural selection within its genetic sequence.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Capn10 (mouse) mapping to 1 D.

RESEARCH USE

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

PRODUCT

Calpain 10 siRNA (m) is a pool of 3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Calpain 10 shRNA Plasmid (m): sc-60319-SH and Calpain 10 shRNA (m) Lentiviral Particles: sc-60319-V as alternate gene silencing products.

For independent verification of Calpain 10 (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-60319A, sc-60319B and sc-60319C.

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

Calpain 10 siRNA (m) is recommended for the inhibition of Calpain 10 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 Calpain 10 gene expression knockdown using RT-PCR Primer: Calpain 10 (m)-PR: sc-60319-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chiu, C.S., et al. 2018. Exploiting Honokiol-induced ER stress CHOP activation inhibits the growth and metastasis of melanoma by suppressing the MITF and β -catenin pathways. *Cancer Lett.* 442: 113-125.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.