SANTA CRUZ BIOTECHNOLOGY, INC.

CSS2 siRNA (m): sc-62161

BACKGROUND

The Calpain family of proteins are calcium-regulated thiol proteases which have broad endopeptidase activity throughout the body. Calpain small subunit 2, also known as CSS2 or CAPNS2, is a calcium-dependent protease that is expressed ubiquitously in the cytoplasm. Part of a heterodimer composed of a small subunit and a large subunit, CSS2 catalyzes proteolysis of various proteins involved in cytoskeletal remodeling and signal transduction. CSS2 also acts as a chaperone to the larger subunit, mediating its correct folding and conformation. When bound as a heterodimer, CSS2 is thought to keep the catalytic activity of the large subunit dormant. After binding calcium, CSS2 is released from the complex, thereby activating the large subunit and allowing CSS2 to translocate from the cytoplasm to the cell membrane. Defects in the gene encoding CSS2 result in incorrect calpain activity and retarded fetal development, suggesting that CSS2 expression is essential for proper growth.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Capns2 (mouse) mapping to 8 C5.

RESEARCH USE

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

PROTOCOLS

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

PRODUCT

CSS2 siRNA (m) 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 CSS2 shRNA Plasmid (m): sc-62161-SH and CSS2 shRNA (m) Lentiviral Particles: sc-62161-V as alternate gene silencing products.

For independent verification of CSS2 (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-62161A and sc-62161B.

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

CSS2 siRNA (m) is recommended for the inhibition of CSS2 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 CSS2 gene expression knockdown using RT-PCR Primer: CSS2 (m)-PR: sc-62161-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.