SANTA CRUZ BIOTECHNOLOGY, INC.

Calpain 12 siRNA (m): sc-62061

BACKGROUND

Calpains are calcium-activated thiol proteases. They are heterodimers with one large subunit and one small subunit. The large subunit varies between family members and can be active without the small subunit. Calpains are involved in intracellular processing of proteins. Calpain 12 is a typical calpain with protease and calcium binding domains. It is expressed ubiquitously, with a very high level of expression in the cortex of the hair follicle during the hair cycle anagen phase. The modification of Calpain 12, together with α Enolase and ATP5B, may play a significant role in plaque deposition of the brain.

REFERENCES

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4. Gafni, J., et al. 2004. Inhibition of calpain cleavage of huntingtin reduces toxicity: accumulation of calpain/caspase fragments in the nucleus. J. Biol. Chem. 279: 20211-20220.
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8. Hou, S.T., et al. 2006. Calpain-cleaved collapsin response mediator protein-3 induces neuronal death after glutamate toxicity and cerebral ischemia. J. Neurosci. 26: 2241-2249.
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CHROMOSOMAL LOCATION

Genetic locus: Capn12 (mouse) mapping to 7 A3.

PRODUCT

Calpain 12 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Calpain 12 shRNA Plasmid (m): sc-62061-SH and Calpain 12 shRNA (m) Lentiviral Particles: sc-62061-V as alternate gene silencing products.

For independent verification of Calpain 12 (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-62061A, sc-62061B and sc-62061C.

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

Calpain 12 siRNA (m) is recommended for the inhibition of Calpain 12 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 Calpain 12 gene expression knockdown using RT-PCR Primer: Calpain 12 (m)-PR: sc-62061-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.

PROTOCOLS

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