SANTA CRUZ BIOTECHNOLOGY, INC.

SCA11 siRNA (h): sc-90020

BACKGROUND

SCA11 (spinocerebellar ataxia 11), also known as TTBK2 (τ-Tubulin kinase 2), is a 1,244 amino acid protein that belongs to the protein kinase superfamily and the CK1 Ser/Thr protein kinase family. The SCA11 gene, comprising of 16 exons, produces a 5.6-kb transcript in which the longest open reading frame is 3,732 nucleotides. Defects in the SCA11 protein are the cause of the disorder spinocerebellar ataxia type 11 (SCA11). Spinocerebellar ataxia is a clinically and genetically heterogeneous group of cerebellar disorders. Patients show progressive incoordination of gait and often poor coordination of hands, speech and eye movements, due to degeneration of the cerebellum with variable involvement of the brainstem and spinal cord. The SCA11 disorder is an autosomal dominant cerebellar ataxia (ADCA). It is a relatively benign, late-onset, slowly progressive neurologic disorder. The SCA11 protein has also been implicated in Alzheimer disease and in tangle formation. Existing as three alternatively spliced isoforms, the SCA11 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 15q15.2.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: TTBK2 (human) mapping to 15q15.2.

PROTOCOLS

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

PRODUCT

SCA11 siRNA (h) 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 SCA11 shRNA Plasmid (h): sc-90020-SH and SCA11 shRNA (h) Lentiviral Particles: sc-90020-V as alternate gene silencing products.

For independent verification of SCA11 (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-90020A, sc-90020B and sc-90020C.

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

SCA11 siRNA (h) is recommended for the inhibition of SCA11 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 SCA11 gene expression knockdown using RT-PCR Primer: SCA11 (h)-PR: sc-90020-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.