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# TTBK2 siRNA (m): sc-154748

## BACKGROUND

Tau functions to promote microtubule assembly and stability and is thought to be involved in the maintenance of neuronal polarity. Tau is highly subject to a variety of post-translational modifications, including phosphorylation on serine and threonine residues, polyubiquitination (and subsequent proteasomal degradation) and glycation of specific Tau isoforms. Defects in the Tau gene are associated with a variety of CNS disorders. TTBK2 (Tau-tubulin kinase 2) is a 1,244 amino acid serine/threonine kinase that is able to phosphorylate Tau and tubulin on serines. Defects in the gene encoding TTBK2 are the cause of spinocerebellar ataxia type 11, an autosomal dominant cerebellar ataxia which is characterized by incoordinated gait, poor coordination of hands, speech and eye movements. There are three isoforms of TTBK2 that are produced as a result of alternative splicing events.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: *Ttbk2* (mouse) mapping to 2 E5.

## PRODUCT

TTBK2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TTBK2 shRNA Plasmid (m): sc-154748-SH and TTBK2 shRNA (m) Lentiviral Particles: sc-154748-V as alternate gene silencing products.

For independent verification of TTBK2 (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-154748A, sc-154748B and sc-154748C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TTBK2 siRNA (m) is recommended for the inhibition of TTBK2 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  $\mu$ M in 66  $\mu$ 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 TTBK2 gene expression knockdown using RT-PCR Primer: TTBK2 (m)-PR: sc-154748-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.