

PRNPIP siRNA (m): sc-152474

BACKGROUND

Prion diseases, or transmissible spongiform encephalopathies (TSEs), are manifested as genetic, infectious or sporadic, lethal neurodegenerative disorders involving alterations of the prion protein (PrP). Characteristic of prion diseases, cellular PrP (PrP^c) is converted to the disease form, PrP^{Sc}, through alterations in the protein folding conformations. PrP^c is constitutively expressed in normal adult brain and is sensitive to proteinase K (PK) digestion, while the altered PrP^{Sc} conformation is resistant to proteases, resulting in a distinct molecular mass after PK treatment. PRNPIP (Prion protein-interacting protein), also known as ERI1 exoribonuclease 3 and PINT (Prion Interactor 1), is a 337 amino acid protein that interacts with PrP. PRNPIP is strongly expressed in brain, thyroid, testis and heart. There are three isoforms of PRNPIP that are produced as a result of alternative splicing events.

REFERENCES

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4. Kupfer, L., Hinrichs, W. and Groschup, M.H. 2009. Prion protein misfolding. *Curr. Mol. Med.* 9: 826-835.
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8. Silva, J.L., Gomes, M.P., Vieira, T.C. and Cordeiro, Y. 2010. PrP interactions with nucleic acids and glycosaminoglycans in function and disease. *Front. Biosci.* 15: 132-150.

CHROMOSOMAL LOCATION

Genetic locus: Eri3 (mouse) mapping to 4 D2.1.

PRODUCT

PRNPIP 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 PRNPIP shRNA Plasmid (m): sc-152474-SH and PRNPIP shRNA (m) Lentiviral Particles: sc-152474-V as alternate gene silencing products.

For independent verification of PRNPIP (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-152474A, sc-152474B and sc-152474C.

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

PRNPIP siRNA (m) is recommended for the inhibition of PRNPIP 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.

GENE EXPRESSION MONITORING

PRNPIP (F-10): sc-514310 is recommended as a control antibody for monitoring of PRNPIP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PRNPIP gene expression knockdown using RT-PCR Primer: PRNPIP (m)-PR: sc-152474-PR (20 μ 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 for detailed protocols and support products.