

82-FIP siRNA (h): sc-60103

BACKGROUND

Fragile X syndrome is the most frequent form of inherited mental retardation and is the result of transcriptional silencing of the FMR1 gene on the X chromosome. The FMR1 protein (or FMRP) is an RNA binding protein that associates with polyribosomes and is a likely component of a messenger ribonuclear protein (mRNP) particle. 82-FIP, is an RNA binding protein that interacts with FMR1 through an N-terminal interaction motif. In some neurons it is detected in both nucleus and cytoplasm, while it is only found in the cytoplasm of other neurons. The localizations appear to be cell cycle-dependent, suggesting that 82-FIP is modulated by the cell cycle. The human 82-FIP protein is comprised of 695 amino acids and shares 95% sequence homology with the mouse protein.

REFERENCES

1. Bardoni, B., et al. 2003. 82-FIP, a novel FMRP (fragile X mental retardation protein) interacting protein, shows a cell cycle-dependent intracellular localization. *Hum. Mol. Genet.* 12: 1689-1698.
2. Brill, L.M., et al. 2004. Robust phosphoproteomic profiling of tyrosine phosphorylation sites from human T cells using immobilized metal affinity chromatography and tandem mass spectrometry. *Anal. Chem.* 76: 2763-2772.
3. Jin, J., et al. 2004. Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. *Curr. Biol.* 14: 1436-1450.
4. Ballif, B.A., et al. 2004. Phosphoproteomic analysis of the developing mouse brain. *Mol. Cell Proteomics* 3: 1093-1101.
5. Ramos, A., et al. 2006. The structure of the N-terminal domain of the fragile X mental retardation protein: a platform for protein-protein interaction. *Structure* 14: 21-31.

CHROMOSOMAL LOCATION

Genetic locus: NUFIP2 (human) mapping to 17q11.2.

PRODUCT

82-FIP 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see 82-FIP shRNA Plasmid (h): sc-60103-SH and 82-FIP shRNA (h) Lentiviral Particles: sc-60103-V as alternate gene silencing products.

For independent verification of 82-FIP (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-60103A, sc-60103B and sc-60103C.

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.

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

82-FIP siRNA (h) is recommended for the inhibition of 82-FIP 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor 82-FIP gene expression knockdown using RT-PCR Primer: 82-FIP (h)-PR: sc-60103-PR (20 μ l, 546 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.