

Twinfilin-2 siRNA (m): sc-154813

BACKGROUND

Twinfilin-2, also known as TWF2, A6r, A6RP or PTK9L, is a 349 amino acid protein that localizes to the perinuclear region of the cytoplasm, as well as to the cytoskeleton and contains two ADF-H domains. Expressed ubiquitously, Twinfilin-2 functions as an Actin-binding protein that is able to both bind and sequester G-Actin and cap the barbed ends of Actin filaments, thereby inhibiting Actin polymerization and playing a role in Actin-related motile and morphological processes. Twinfilin-2 is subject to post-translational phosphorylation by PKC ζ . The gene encoding Twinfilin-2 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Rohwer, A., Kittstein, W., Marks, F. and Gschwendt, M. 1999. Cloning, expression and characterization of an A6-related protein. *Eur. J. Biochem.* 263: 518-525.
2. Palmgren, S., Vartiainen, M. and Lappalainen, P. 2002. Twinfilin, a molecular mailman for Actin monomers. *J. Cell. Sci.* 115: 881-886.
3. Vartiainen, M.K., Sarkkinen, E.M., Matilainen, T., Salminen, M. and Lappalainen, P. 2003. Mammals have two Twinfilin isoforms whose sub-cellular localizations and tissue distributions are differentially regulated. *J. Biol. Chem.* 278: 34347-34355.
4. Yamada, S., Uchimura, E., Ueda, T., Nomura, T., Fujita, S., Matsumoto, K., Funeriu, D.P., Miyake, M. and Miyake, J. 2007. Identification of Twinfilin-2 as a factor involved in neurite outgrowth by RNAi-based screen. *Biochem. Biophys. Res. Commun.* 363: 926-930.

CHROMOSOMAL LOCATION

Genetic locus: *Twf2* (mouse) mapping to 9 F1.

PRODUCT

Twinfilin-2 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 Twinfilin-2 shRNA Plasmid (m): sc-154813-SH and Twinfilin-2 shRNA (m) Lentiviral Particles: sc-154813-V as alternate gene silencing products.

For independent verification of Twinfilin-2 (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-154813A, sc-154813B and sc-154813C.

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

Twinfilin-2 siRNA (m) is recommended for the inhibition of Twinfilin-2 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

Twinfilin-2 (B-6): sc-398673 is recommended as a control antibody for monitoring of Twinfilin-2 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Twinfilin-2 gene expression knockdown using RT-PCR Primer: Twinfilin-2 (m)-PR: sc-154813-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 or our catalog for detailed protocols and support products.