SANTA CRUZ BIOTECHNOLOGY, INC.

CapZ-β siRNA (h): sc-43661

BACKGROUND

CapZ-β (capping protein (Actin filament) muscle Z-line, β) gene encodes the β subunit of a barbed-end F-Actin capping protein complex. This protein complex regulates growth of the Actin filament by capping the barbed end of growing Actin filaments. F-Actin capping protein complex is a heterodimer consisting of α and β subunits that caps the barbed ends of Actin filaments and nucleates the polymerization of Actin monomers, yet does not sever Actin filaments. Capping protein binds to the barbed ends of Actin filaments and prevents the addition and loss of Actin monomers at the end.

REFERENCES

1. Barron-Casella, E.A., et al. 1995. Sequence analysis and chromosomal localization of human CapZ. Conserved residues within the Actin-binding domain may link CapZ to gelsolin/severin and profilin protein families. J. Biol. Chem. 270: 21472-21479.
2. Ivanenkov, V.V., et al. 1996. Interaction of S100a0 protein with the Actin capping protein, CapZ: characterization of a putative S100a0 binding site in CapZ-α-subunit. Biochem. Biophys. Res. Commun. 221: 46-50.
3. Yamashita, A., et al. 2003. Crystal structure of CapZ: structural basis for Actin filament barbed end capping. EMBO J. 22: 1529-1538.
4. Hutchings, N.J., et al. 2003. Linking the T cell surface protein CD2 to the Actin-capping protein CapZ via CMS and CIN85. J. Biol. Chem. 278: 22396-22403.
5. McGregor, E., et al. 2004. F-Actin capping (CapZ) and other contractile saphenous vein smooth muscle proteins are altered by hemodynamic stress: a proteonomic approach. Mol. Cell. Proteomics 3: 115-124.
6. Ponsuksili, S., et al. 2009. Porcine muscle sensory attributes associate with major changes in gene networks involving CAPZB, ANKRD1, and CTBP2. Funct. Integr. Genomics 9: 455-471.

CHROMOSOMAL LOCATION

Genetic locus: CAPZB (human) mapping to 1p36.13.

PRODUCT

CapZ-β 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 CapZ-β shRNA Plasmid (h): sc-43661-SH and CapZ-β shRNA (h) Lentiviral Particles: sc-43661-V as alternate gene silencing products.

For independent verification of CapZ-β (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-43661A and sc-43661B.

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 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

CapZ-β siRNA (h) is recommended for the inhibition of CapZ-β 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.

GENE EXPRESSION MONITORING

CapZ-β (52): sc-136502 is recommended as a control antibody for monitoring of CapZ-β 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 CapZ-β gene expression knockdown using RT-PCR Primer: CapZ-β (h)-PR: sc-43661-PR (20 µl, 451 bp). 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.