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CapZ- β shRNA (h) Lentiviral Particles: sc-43661-V

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

- 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.
- 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.
- Yamashita, A., et al. 2003. Crystal structure of CapZ: structural basis for Actin filament barbed end capping. *EMBO J.* 22: 1529-1538.
- 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.
- McGregor, E., et al. 2004. F-Actin capping (CapZ) and other contractile saphenous vein smooth muscle proteins are altered by hemodynamic stress: a proteomic approach. *Mol. Cell. Proteomics* 3: 115-124.

CHROMOSOMAL LOCATION

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

PRODUCT

CapZ- β shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see CapZ- β siRNA (h): sc-43661 and CapZ- β shRNA Plasmid (h): sc-43661-SH as alternate gene silencing products.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

APPLICATIONS

CapZ- β shRNA (h) Lentiviral Particles is recommended for the inhibition of CapZ- β expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

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 (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 CapZ- β gene expression knockdown using RT-PCR Primer: CapZ- β (h)-PR: sc-43661-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.