SANTA CRUZ BIOTECHNOLOGY, INC.

Cbp siRNA (h): sc-29952

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The Power to Question

BACKGROUND

The Src family of protein tyrosine kinases (Src-PTKs) is important in the regulation of growth and differentiation of eukaryotic cells. The activity of Src-PTKs in cells of different types is negatively controlled by Csk. Csk binding protein (Cbp, also designated phosphoprotein associated with glycosphingo-lipid-enriched microdomains (GEMs) or PAG) is a transmembrane phosphoprotein that is ubiquitously expressed and binds specifically to the SH2 domain of Csk. Cbp is involved in the membrane localization of Csk and in the Csk-mediated inhibition of c-Src. In the plasma membrane Cbp is exclusively localized in the GM1 ganglioside-enriched detergent-insoluble membrane domain, which is important in receptor-mediated signalling. Cbp is a component of the regulatory mechanism controlling the activity of membrane-associated Src-PTKs.

REFERENCES

1. Simons, K., et al. 1997. Functional rafts in cell membranes. Nature 387: 569-572.
2. Brown, D.A., et al. 1998. Functions of lipid rafts in biological membranes. Annu. Rev. Cell Dev. Biol. 14: 111-136.
3. Anderson, R.G. 1998. The caveolae membrane system. Annu. Rev. Biochem. 67: 199-225.
4. Xavier, R., et al. 1998. Membrane compartmentation is required for efficient T cell activation. Immunity 8: 723-732.

CHROMOSOMAL LOCATION

Genetic locus: PAG1 (human) mapping to 8q21.13.

PRODUCT

Cbp 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 Cbp shRNA Plasmid (h): sc-29952-SH and Cbp shRNA (h) Lentiviral Particles: sc-29952-V as alternate gene silencing products.

For independent verification of Cbp (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-29952A, sc-29952B and sc-29952C.

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

Cbp siRNA (h) is recommended for the inhibition of Cbp 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

Cbp (G-8): sc-365387 is recommended as a control antibody for monitoring of Cbp 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 Cbp gene expression knockdown using RT-PCR Primer: Cbp (h)-PR: sc-29952-PR (20 µl, 416 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Raychaudhuri, N., et al. 2010. PGE2 induces IL-6 in orbital fibroblasts through EP2 receptors and increased gene promoter activity: implications to thyroid-associated ophthalmopathy. PLoS ONE 5: e15296.
2. Song, H., et al. 2011. Acetylation of EGF receptor contributes to tumor cell resistance to histone deacetylase inhibitors. Biochem. Biophys. Res. Commun. 404: 68-73.
3. Gu, M.L., et al. 2016. An inhibitor of the acetyltransferases CBP/p300 exerts antineoplastic effects on gastrointestinal stromal tumor cells. Oncol. Rep. 36: 2763-2770.
4. Sengupta, S., et al. 2018. Acetylation of oxidized base repair-initiating NEIL1 DNA glycosylase required for chromatin-bound repair complex formation in the human genome increases cellular resistance to oxidative stress. DNA Repair 66-67: 1-10.

RESEARCH USE

For research use only, not for use in diagnostic procedures.