SANTA CRUZ BIOTECHNOLOGY, INC.

CacyBP siRNA (m): sc-77341

BACKGROUND

CacyBP (calcyclin-binding protein, Siah-interacting protein) is a 228 amino acid protein encoded by the human gene CACYBP. CacyBP is primarily a nuclear protein that contains one CS domain and one SGS domain. CacyBP is believed to be involved in calcium-dependent ubiquitination and subsequent proteosomal degradation of target proteins. It most likely serves as a molecular bridge in ubiquitin E3 complexes. It also participates in the ubiquitin-mediated degradation of β-catenin. CacyBP is thought to be a potential inhibitor of cell growth and invasion in the gastric cancer cell through its effects on β-catenin protein expression and transcriptional activation of TCF/LEF.

REFERENCES

1. Hildebrandt, B., et al. 2006. Differential gene expression in peripheral blood lymphocytes of cancer patients treated with whole body hyperthermia and chemotherapy: a pilot study. Int. J. Hyperthermla 22: 625-635.
2. Sun, S., et al. 2007. Overexpressed CacyBP/SIP leads to the suppression of growth in renal cell carcinoma. Biochem. Biophys. Res. Commun. 356: 864-871.
3. Mei, Y., et al. 2007. Siah-1S, a novel splice variant of Siah-1 (seven in absentia homolog), counteracts Siah-1-mediated downregulation of β-catenin. Oncogene 26: 6319-6331.
4. Herington, J.L., et al. 2007. β-catenin (CTNNB1) in the mouse uterus during decidualization and the potential role of two pathways in regulating its degradation. J. Histochem. Cytochem. 55: 963-974.
5. Liang, J., et al. 2007. Differential expression of calcium-related genes in gastric cancer cells transfected with cellular prion protein. Biochem. Cell Biol. 85: 375-383.
6. Schneider, G., et al. 2007. CacyBP/SIP interacts with tubulin in neuroblastoma NB2a cells and induces formation of globular tubulin assemblies. Biochim. Biophys. Acta 1773: 1628-1636.
7. Ning, X., et al. 2007. Calcyclin-binding protein inhibits proliferation, tumorigenicity, and invasion of gastric cancer. Mol. Cancer Res. 5: 1254-1262.

CHROMOSOMAL LOCATION

Genetic locus: Cacybp (mouse) mapping to 1 H2.1.

PRODUCT

CacyBP 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CacyBP shRNA Plasmid (m): sc-77341-SH and CacyBP shRNA (m) Lentiviral Particles: sc-77341-V as alternate gene silencing products.

For independent verification of CacyBP (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-77341A, sc-77341B and sc-77341C.

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

CacyBP siRNA (m) is recommended for the inhibition of CacyBP 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 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

CacyBP (H-1): sc-166455 is recommended as a control antibody for monitoring of CacyBP 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 CacyBP gene expression knockdown using RT-PCR Primer: CacyBP (m)-PR: sc-77341-PR (20 µl). 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 for detailed protocols and support products.