SANTA CRUZ BIOTECHNOLOGY, INC.

GCIP siRNA (h): sc-90019

BACKGROUND

GCIP (Grap2 (Gads) and cyclin D-interacting protein), also known as cyclin D-type binding-protein 1 (CCNDBP1), human homolog of maid (HHM) or DIP1, is a 360 amino acid cytoplasmic and nuclear protein belonging to the CCNDBP1 family. GCIP interacts with cyclin D and Gads, a leukocyte-specific adaptor protein known to influence immune cell signaling. Suggested to regulate cell cycle progression, GCIP acts as a negative regulator of liver-specific gene expression and prevents Rb phosphorylation by inhibiting the Cdk4/cyclin D complex. GCIP expression is down-regulated in a number of tumors including those found in rectum, breast, prostate and colon, but up-regulated in hepatic cancers. GCIP is ubiquitously expressed and exists as at least four alternatively spliced isoforms whose expression likely increases during differentiation and can be induced by sodium butyrate.

REFERENCES

1. Xia, C., et al. 2000. GCIP, a novel human grap2 and cyclin D interacting protein, regulates E2F-mediated transcriptional activity. J. Biol. Chem. 275: 20942-20948.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607089. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Ma, W., et al. 2006. Expression of GCIP in transgenic mice decreases susceptibility to chemical hepatocarcinogenesis. Oncogene 25: 4207-4216.
4. Chellas-Gery, B., et al. 2007. Human GCIP interacts with CT847, a novel *Chlamydia trachomatis* type III secretion substrate, and is degraded in a tissue-culture infection model. Cell. Microbiol. 9: 2417-2430.
5. Ikushima, H., et al. 2008. An Id-like molecule, HHM, is a synexpression group-restricted regulator of TGFβ signalling. EMBO J. 27: 2955-2965.
6. Chen, W.C., et al. 2008. Immunohistochemical expression of GCIP in breast carcinoma: relationship with tumour grade, disease-free survival, mucinous differentiation and response to chemotherapy. Histopathology 53: 554-560.

CHROMOSOMAL LOCATION

Genetic locus: CCNDBP1 (human) mapping to 15q15.2.

PRODUCT

GCIP 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 GCIP shRNA Plasmid (h): sc-90019-SH and GCIP shRNA (h) Lentiviral Particles: sc-90019-V as alternate gene silencing products.

For independent verification of GCIP (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-90019A, sc-90019B and sc-90019C.

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

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

GCIP (C-9): sc-514518 is recommended as a control antibody for monitoring of GCIP 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 GCIP gene expression knockdown using RT-PCR Primer: GCIP (h)-PR: sc-90019-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.