SANTA CRUZ BIOTECHNOLOGY, INC.

PCLAF siRNA (h): sc-62735

BACKGROUND

PCLAF (PCNA clamp associated factor), also known as p15 (PAF), PAF, L5, OEATC1 (overexpressed in anaplastic thyroid carcinoma 1) or NS5ATP9, is a 111 amino acid protein that localizes to both the nucleus and the mitochondria. Highly expressed in colon and thymus with lower expression in liver, ovary, kidney, spleen, placenta and small intestine, PCLAF interacts with the nuclear antigen PCNA and, through this interaction, is thought to protect cells from UV-induced cell death. The association of PCLAF and PCNA is enhanced by UV treatment and is facilitated by the binding of ING1, a tumor suppressor that can induce apoptosis. Due to its ability to bind the apoptoic factor ING1 and subsequently decrease the rate of cell death, high levels of PCLAF are found in several types of tumors, including esophageal and pancreatic cancer, suggesting an important role for PCLAF in tumor progression.

REFERENCES

1. Yu, P., et al. 2001. $p15^{PAF}$, a novel PCNA associated factor with increased expression in tumor tissues. Oncogene 20: 484-489.
2. Mizutani, K., et al. 2005. Overexpressed in anaplastic thyroid carcinoma-1 (OEATC-1) as a novel gene responsible for anaplastic thyroid carcinoma. Cancer 103: 1785-1790.
3. Guo, M., et al. 2006. KIAA0101 (OEACT-1), an expressionally down-regulated and growth-inhibitory gene in human hepatocellular carcinoma. BMC Cancer 6: 109.
4. Simpson, F., et al. 2006. The PCNA-associated factor KIAA0101/$p15^{PAF}$ binds the potential tumor suppressor product p33ING1b. Exp. Cell Res. 312: 73-85.
5. Yuan, R.H., et al. 2007. Overexpression of KIAA0101 predicts high stage, early tumor recurrence, and poor prognosis of hepatocellular carcinoma. Clin. Cancer Res. 13: 5368-5376.
6. Hosokawa, M., et al. 2007. Oncogenic role of KIAA0101 interacting with proliferating cell nuclear antigen in pancreatic cancer. Cancer Res. 67: 2568-2576.
7. van Bueren, K.L., et al. 2007. Murine embryonic expression of the gene for the UV-responsive protein $p15^{PAF}$. Gene Expr. Patterns 7: 47-50.

CHROMOSOMAL LOCATION

Genetic locus: PCLAF (human) mapping to 15q22.31.

PRODUCT

PCLAF 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 PCLAF shRNA Plasmid (h): sc-62735-SH and PCLAF shRNA (h) Lentiviral Particles: sc-62735-V as alternate gene silencing products.

For independent verification of PCLAF (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-62735A, sc-62735B and sc-62735C.

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

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

PCLAF (G-11): sc-390515 is recommended as a control antibody for monitoring of PCLAF 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 PCLAF gene expression knockdown using RT-PCR Primer: PCLAF (h)-PR: sc-62735-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.