SANTA CRUZ BIOTECHNOLOGY, INC.

DOC1 siRNA (h): sc-78325

BACKGROUND

DOC1 (down-regulated in ovarian cancer-1), also known as Filamin A-interacting protein 1-like and GPBP-interacting protein, is a 1,135 amino acid protein that was originally cloned from normal ovarian epithelial cell lines, but was consistently found to be absent in ovarian cancer cell lines. Knockdown of DOC1 mRNA results in suppression of the EMAP II-stimulated gene expression of DOC1 as well as four other genes, suggesting that DOC1 may mediate the effect of EMAP II. The gene encoding DOC1 is upregulated in endothelial cells treated with angiogenesis inhibitors, which alludes to its potential benefit as a antivascular reagent for cancer therapy. There are five isoforms of DOC1 that exist as a result of alternative splicing events.

REFERENCES

1. Mok, S.C., et al. 1994. Molecular cloning of differentially expressed genes in human epithelial ovarian cancer. Gynecol. Oncol. 52: 247-252.
2. Mok, S.C., et al. 1998. DOC2, a candidate tumor suppressor gene in human epithelial ovarian cancer. Oncogene 16: 2381-2387.
3. Santin, A.D., et al. 2004. Gene expression profiles in primary ovarian serous papillary tumors and normal ovarian epithelium: identification of candidate molecular markers for ovarian cancer diagnosis and therapy. Int. J. Cancer 112: 14-25.
4. Ing, N.H., et al. 2004. Gene expression in the spermatogenically inactive "dark" and maturing "light" testicular tissues of the prepubertal colt. J. Androl. 25: 535-544.
5. Tandle, A.T. and Libutti, S.K. 2005. Endothelial monocyte activating polypeptide-II induced gene expression changes in endothelial cells. Cytokine 30: 347-358.
6. Kwon, M., et al. 2008. Functional characterization of filamin a interacting protein 1-like, a novel candidate for antivascular cancer therapy. Cancer Res. 68: 7332-7341.
7. Grazio, D., et al. 2008. Differential gene expression analysis of ovarian cancer in a population isolate. Eur. J. Gynaecol. Oncol. 29: 357-363.
8. Zhang, L., et al. 2008. Genomic and epigenetic alterations deregulate microRNA expression in human epithelial ovarian cancer. Proc. Natl. Acad. Sci. USA 105: 7004-7009.

CHROMOSOMAL LOCATION

Genetic locus: FILIP1L (human) mapping to 3q12.1.

PRODUCT

DOC1 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 DOC1 shRNA Plasmid (h): sc-78325-SH and DOC1 shRNA (h) Lentiviral Particles: sc-78325-V as alternate gene silencing products.

For independent verification of DOC1 (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-78325A, sc-78325B and sc-78325C.

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

DOC1 siRNA (h) is recommended for the inhibition of DOC1 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

DOC1 (D-2): sc-376472 is recommended as a control antibody for monitoring of DOC1 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 DOC1 gene expression knockdown using RT-PCR Primer: DOC1 (h)-PR: sc-78325-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Park, Y.L., et al. 2016. Filamin A interacting protein 1-like expression inhibits progression in colorectal cancer. Oncotarget 7: 72229-72241.

RESEARCH USE

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