SANTA CRUZ BIOTECHNOLOGY, INC.

OVCA2 siRNA (m): sc-62730

BACKGROUND

OVCA2 (ovarian cancer-associated gene 2 protein) is a 227 amino acid nuclear protein that belongs to the UPF0483 family. It is ubiquitously expressed and its expression is regulated by retinoids. OVCA2 interacts with apoptosis-related protein Bag-1, indicating that this protein may participate in cell proliferation. OVCA2 is evolutionarily conserved and shares homology with dihydrofolate reductases (DHFRs). Due to its structural and catalytic characteristics, OVCA2 is thought to act as a serine-hydrolase and, because of its reduced expression in ovarian and other tumor cell lines, it may play a role in tumor suppression. OVCA2 is downregulated in lung cancer cells and is proteolytically degraded in leukemia cell lines when exposed to RA and 4HPR.

REFERENCES

1. Yune, H.Y., et al. 1975. Normal variations and lesions of the sphenoid sinus. Am. J. Roentgenol. Radium Ther. Nucl. Med. 124: 129-138.
2. Schultz, D.C., et al. 1996. Identification of two candidate tumor suppressor genes on chromosome 17p13.3. Cancer Res. 56: 1997-2002.
3. Wiper, D.W., et al. 1998. Analysis of allelic imbalance on chromosome 17p13 in stage I and stage II epithelial ovarian cancers. Gynecol. Oncol. 71: 77-82.
4. Huang, J., et al. 2000. High frequency allelic loss on chromosome 17p13.3-p11.1 in esophageal squamous cell carcinomas from a high incidence area in northern China. Carcinogenesis 21: 2019-2026.
5. Prowse, A.H., et al. 2002. OVCA2 is downregulated and degraded during retinoid-induced apoptosis. Int. J. Cancer 99: 185-192.
6. Baxter, S.M., et al. 2004. Synergistic computational and experimental proteomics approaches for more accurate detection of active serine hydrolases in yeast. Mol. Cell. Proteomics 3: 209-225.
7. Jensen, M.R., et al. 2004. OVCA1: emerging as a bona fide tumor suppressor. Genes Dev. 18: 245-248.
8. Zaim, J., et al. 2005. Identification of new genes regulated by the Crt1 transcription factor, an effector of the DNA damage checkpoint pathway in *Saccharomyces cerevisiae*. J. Biol. Chem. 280: 28-37.
9. Azizi, A.A., et al. 2006. Mass spectrometric identification of serine hydrolase OVCA2 in the medulloblastoma cell line DAOY. Cancer Lett. 241: 235-249.

CHROMOSOMAL LOCATION

Genetic locus: Ovca2 (mouse) mapping to 11 B5.

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.

PRODUCT

OVCA2 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 OVCA2 shRNA Plasmid (m): sc-62730-SH and OVCA2 shRNA (m) Lentiviral Particles: sc-62730-V as alternate gene silencing products.

For independent verification of OVCA2 (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-62730A, sc-62730B and sc-62730C.

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

OVCA2 siRNA (m) is recommended for the inhibition of OVCA2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor OVCA2 gene expression knockdown using RT-PCR Primer: OVCA2 (m)-PR: sc-62730-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.