

# LDOC1L siRNA (h): sc-75415

## BACKGROUND

LDOC1 (leucine zipper protein downregulated in cancer cells) is a 146 amino acid nuclear protein that contains a leucine zipper-like motif and a proline-rich region that shares marked similarity with an SH3-binding domain. The protein localizes to the nucleus and is downregulated in some cancer cell lines. It is thought to regulate the transcriptional response mediated by the nuclear factor  $\kappa$ B (NF- $\kappa$ B). The gene has been proposed as a tumor suppressor gene whose protein product may have an important role in the development and/or progression of some cancers. LDOC1L (leucine zipper protein down-regulated in cancer cells-like), also known as MART6 (mammalian retrotransposon-derived protein 6), is a 239 amino acid protein that belongs to the LDOC1 family.

## REFERENCES

1. Nagasaki, K., Manabe, T., Hanzawa, H., Maass, N., Tsukada, T. and Yamaguchi, K. 1999. Identification of a novel gene, LDOC1, down-regulated in cancer cell lines. *Cancer Lett.* 140: 227-234.
2. Nagasaki, K., Schem, C., von Kaisenberg, C., Biallek, M., Rösel, F., Jonat, W. and Maass, N. 2003. Leucine-zipper protein, LDOC1, inhibits NF $\kappa$ B activation and sensitizes pancreatic cancer cells to apoptosis. *Int. J. Cancer* 105: 454-458.
3. Chih, D.Y., Park, D.J., Gross, M., Idos, G., Vuong, P.T., Hiram, T., Chumakov, A.M., Said, J. and Koeffler, H.P. 2004. Protein partners of C/EBP $\epsilon$ . *Exp. Hematol.* 32: 1173-1181.
4. Collins, J.E., Wright, C.L., Edwards, C.A., Davis, M.P., Grinham, J.A., Cole, C.G., Goward, M.E., Aguado, B., Mallya, M., Mokrab, Y., Huckle, E.J., Beare, D.M. and Dunham, I. 2004. A genome annotation-driven approach to cloning the human ORFeome. *Genome Biol.* 5: R84.
5. Inoue, M., Takahashi, K., Niide, O., Shibata, M., Fukuzawa, M. and Ra, C. 2005. LDOC1, a novel MZF-1-interacting protein, induces apoptosis. *FEBS Lett.* 579: 604-608.
6. Baffoe-Bonnie, A.B., Smith, J.R., Stephan, D.A., Schleutker, J., Carpten, J.D., Kainu, T., Gillanders, E.M., Matikainen, M., Teslovich, T.M., Tammela, T., Sood, R., Balshem, A.M., Scarborough, S.D., Xu, J., et al. 2005. A major locus for hereditary prostate cancer in Finland: localization by linkage disequilibrium of a haplotype in the HPCX region. *Hum. Genet.* 117: 307-316.
7. Mizutani, K., Koike, D., Suetsugu, S. and Takenawa, T. 2005. WAVE3 functions as a negative regulator of LDOC1. *J. Biochem.* 138: 639-646.
8. Ogawa, R., Ishiguro, H., Kuwabara, Y., Kimura, M., Mitsui, A., Mori, Y., Mori, R., Tomoda, K., Katada, T., Harada, K. and Fujii, Y. 2008. Identification of candidate genes involved in the radiosensitivity of esophageal cancer cells by microarray analysis. *Dis. Esophagus* 21: 288-297.

## CHROMOSOMAL LOCATION

Genetic locus: LDOC1L (human) mapping to 22q13.31.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

LDOC1L 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LDOC1L shRNA Plasmid (h): sc-75415-SH and LDOC1L shRNA (h) Lentiviral Particles: sc-75415-V as alternate gene silencing products.

For independent verification of LDOC1L (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-75415A, sc-75415B and sc-75415C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

LDOC1L siRNA (h) is recommended for the inhibition of LDOC1L 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  $\mu$ M in 66  $\mu$ l. 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 LDOC1L gene expression knockdown using RT-PCR Primer: LDOC1L (h)-PR: sc-75415-PR (20  $\mu$ l). 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.