

# LDOC1L siRNA (m): sc-146695

## 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 downregulated 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., Hirma, 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., Isaacs, W.B., 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.

## PROTOCOLS

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

## CHROMOSOMAL LOCATION

Genetic locus: Ldoc1l (mouse) mapping to 15 E2.

## PRODUCT

LDOC1L siRNA (m) is a target-specific 19-25 nt siRNA 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 (m): sc-146695-SH and LDOC1L shRNA (m) Lentiviral Particles: sc-146695-V as alternate gene silencing 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  $\mu$ 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 (m) is recommended for the inhibition of LDOC1L 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  $\mu$ 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 (m)-PR: sc-146695-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.