

# LMO3 siRNA (h): sc-75429

## BACKGROUND

LMO3 (LIM domain only 3), also known as RBTN3 (Rhombotin-3), RBTN2 or RHOM3, is a 145 amino acid protein that contains two LIM zinc-binding domains and may be involved in transcriptional regulation events in tissues throughout the body. Aberrant expression of LMO3 is associated with the genesis and progression of human neuroblastoma, suggesting a role for LMO3 in oncogenesis. The gene encoding LMO3 maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

## REFERENCES

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- Foron, L., et al. 1992. The rhombotin gene family encode related LIM-domain proteins whose differing expression suggests multiple roles in mouse development. *J. Mol. Biol.* 226: 747-761.
- Shi, J., et al. 2001. Identification of dopamine responsive mRNAs in glial cells by suppression subtractive hybridization. *Brain Res.* 910: 29-37.
- Aoyama, M., et al. 2005. LMO3 interacts with neuronal transcription factor, HEN2, and acts as an oncogene in neuroblastoma. *Cancer Res.* 65: 4587-4597.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 180386. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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## CHROMOSOMAL LOCATION

Genetic locus: LMO3 (human) mapping to 12p12.3.

## PRODUCT

LMO3 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 LMO3 shRNA Plasmid (h): sc-75429-SH and LMO3 shRNA (h) Lentiviral Particles: sc-75429-V as alternate gene silencing products.

For independent verification of LMO3 (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-75429A, sc-75429B and sc-75429C.

## PROTOCOLS

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

LMO3 siRNA (h) is recommended for the inhibition of LMO3 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.

## GENE EXPRESSION MONITORING

LMO3 (1A8): sc-517019 is recommended as a control antibody for monitoring of LMO3 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LMO3 gene expression knockdown using RT-PCR Primer: LMO3 (h)-PR: sc-75429-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.