SANTA CRUZ BIOTECHNOLOGY, INC.

# MSL3L1 siRNA (h): sc-91157

## BACKGROUND

*Drosophila melanogaster* is a proven and effective model for studying developmental and cellular processes common to higher eukaryotes. Approximately 13,600 genes have been elucidated from more than 120 megabases of euchromatin, and they are organized among the chromosomes 2, 3, 4, X and Y, with the Y chromosome being predominately heterochromatic. The male-specific lethal (MSL) genes (including MSL3L1 and MSL3L2) are essential for X-chromosome dosage compensation. The human gene MSL3L1 encodes a protein with significant homology to *Drosophila* MSL-3 in three distinct regions, which include two putative chromo domains. The MSL3L1 gene maps to a chromosomal location implicated in several disorders, including microphthalmia with linear skin defects (MLS or MIDAS), OFD1 and SED tarda, as well as Aicardi syndrome and Goltz syndrome.

## REFERENCES


1. Prakash, S.K., et al. 1999. Characterization of a novel chromo domain gene in Xp22.3 with homology to *Drosophila* msl-3. Genomics 59: 77-84.
2. Adams, M.D., et al. 2000. The genome sequence of *Drosophila melanogaster*. Science 287: 2185-2195.
3. Marín, I. and Baker, B.S. 2000. Origin and evolution of the regulatory gene male-specific lethal-3. Mol. Biol. Evol. 17: 1240-1250.
4. Birchler, J.A., et al. 2003. Dosage dependent gene regulation and the compensation of the X chromosome in *Drosophila* males. Genetica 117: 179-190.
5. Rea, S. and Akhtar, A. 2006. MSL proteins and the regulation of gene expression. Curr. Top. Microbiol. Immunol. 310: 117-140.
6. Mendjan, S. and Akhtar, A. 2007. The right dose for every sex. Chromosoma 116: 95-106.
7. Wimplinger, I., et al. 2007. Mother and daughter with a terminal Xp deletion: implication of chromosomal mosaicism and X-inactivation in the high clinical variability of the microphthalmia with linear skin defects (MLS) syndrome. Eur. J. Med. Genet. 50: 421-431.


## CHROMOSOMAL LOCATION

Genetic locus: MSL3 (human) mapping to Xp22.2.

## PRODUCT

MSL3L1 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 MSL3L1 shRNA Plasmid (h): sc-91157-SH and MSL3L1 shRNA (h) Lentiviral Particles: sc-91157-V as alternate gene silencing products.

For independent verification of MSL3L1 (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-91157A, sc-91157B and sc-91157C.

## RESEARCH USE

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

## 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

MSL3L1 siRNA (h) is recommended for the inhibition of MSL3L1 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

MSL3L1 (E-7): sc-518210 is recommended as a control antibody for monitoring of MSL3L1 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 MSL3L1 gene expression knockdown using RT-PCR Primer: MSL3L1 (h)-PR: sc-91157-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.