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# TLL1 siRNA (m): sc-154295

## BACKGROUND

TLL1 (tolloid-like protein 1), also known as TLL, is a 1,013 amino acid secreted protein that belongs to the peptidase M12A family and exists as two alternatively spliced isoforms. TLL1 contains five CUB domains, two EGF-like domains and binds one zinc ion per subunit. Required for embryonic development, TLL1 is a predominant protease which, in development, influences dorsal-ventral patterning and skeletogenesis. TLL1 also processes procollagen C-propeptides, such as chordin, pro-biglycan and pro-lysyl oxidase. Defects in TLL1 are the cause of atrial septal defect type 6 (ASD6), a congenital heart malformation characterized by incomplete closure of the wall between the atria resulting in blood flow from the left to the right atrium. The gene that encodes TLL1 consists of approximately 230,638 bases and maps to human chromosome 4q32.

## REFERENCES

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3. Uzel, M.I., et al. 2001. Multiple bone morphogenetic protein 1-related mammalian metalloproteinases process pro-lysyl oxidase at the correct physiological site and control lysyl oxidase activation in mouse embryo fibroblast cultures. *J. Biol. Chem.* 276: 22537-22543.
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6. Mac Sweeney, A., et al. 2008. Structural basis for the substrate specificity of bone morphogenetic protein 1/tolloid-like metalloproteases. *J. Mol. Biol.* 384: 228-239.
7. Sabirzhanova, I.B., et al. 2009. Activation of mammalian Tolloid-like 1 expression by hypoxia in human neuroblastoma SH-SY5Y cells. *Biochem. Biophys. Res. Commun.* 389: 338-342.
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## PROTOCOLS

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

## CHROMOSOMAL LOCATION

Genetic locus: Tll1 (mouse) mapping to 8 B3.1.

## PRODUCT

TLL1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TLL1 shRNA Plasmid (m): sc-154295-SH and TLL1 shRNA (m) Lentiviral Particles: sc-154295-V as alternate gene silencing products.

For independent verification of TLL1 (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-154295A, sc-154295B and sc-154295C.

## 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

TLL1 siRNA (m) is recommended for the inhibition of TLL1 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 TLL1 gene expression knockdown using RT-PCR Primer: TLL1 (m)-PR: sc-154295-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.