SANTA CRUZ BIOTECHNOLOGY, INC.

# EML1 siRNA (h): sc-60576

## BACKGROUND

Echinoderm microtubule-associated proteins function to modify the assembly dynamics of microtubules by making microtubules slightly longer yet more dynamic. They are classified as ubiquitous due to their expression in most tissues, however, their expression does not occur in the thymus nor the peripheral blood lymphocytes. In the human form of the protein, there is a WD40 domain that is also contained in a number of eukaryotic proteins that carries out functions including signal transduction using adaptor/regulatory modules, pre-mRNA processing and cytoskeleton assembly. EML1 (echinoderm microtubule-associated protein-like 1 or EMAP-1) may be a candidate gene for Usher syndrome type 1A. Usher syndromes (USHs) are a group of genetic disorders consisting of congenital deafness, retinitis pigmentosa and vestibular dysfunction of variable onset and severity depending on the genetic type.

## REFERENCES


1. Li, Q. and Suprenant, K.A. 1994. Molecular characterization of the 77 kDa echinoderm microtubule-associated protein. Homology to the β-transducin family. J. Biol. Chem. 269: 31777-31784.
2. Eudy, J.D., et al. 1997. Isolation of a novel human homologue of the gene coding for echinoderm microtubule-associated protein (EMAP) from the Usher syndrome type 1a locus at 14q32. Genomics 43: 104-106.
3. Daggett, M.A., et al. 1998. Overexpression of the 77-kD echinoderm microtubule-associated protein (EMAP), a WD-40 repeat protein, in baculovirus-infected Sf9 cells. Cell Motil. Cytoskeleton 41: 57-67.
4. Suprenant, K.A., et al. 2000. Conservation of the WD-repeat, microtubule-binding protein, EMAP, in sea urchins, humans, and the nematode *C. elegans*. Dev. Genes Evol. 210: 2-10.
5. Eichenmüller, B., et al. 2001. Saturable binding of the echinoderm microtubule-associated protein (EMAP) on microtubules, but not filamentous actin or vimentin filaments. Cell Motil. Cytoskeleton 50: 161-172.
6. De Keersmaecker, K., et al. 2005. Fusion of EML1 to ABL1 in T cell acute lymphoblastic leukemia with cryptic t(9;14)(q34;q32). Blood 105: 4849-4852.
7. http://harvester.embl.de/harvester/O004/O00423.htm


## CHROMOSOMAL LOCATION

Genetic locus: EML1 (human) mapping to 14q32.2.

## PRODUCT

EML1 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 EML1 shRNA Plasmid (h): sc-60576-SH and EML1 shRNA (h) Lentiviral Particles: sc-60576-V as alternate gene silencing products.

For independent verification of EML1 (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-60576A, sc-60576B and sc-60576C.

## 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

EML1 siRNA (h) is recommended for the inhibition of EML1 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

EML1 (B-3): sc-390841 is recommended as a control antibody for monitoring of EML1 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 EML1 gene expression knockdown using RT-PCR Primer: EML1 (h)-PR: sc-60576-PR (20 µl). 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.

## PROTOCOLS

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