SANTA CRUZ BIOTECHNOLOGY, INC.

EML2 siRNA (h): sc-97090

BACKGROUND

Microtubules are components of the actin cytoskeleton that play crucial roles in cell morphogenesis, cell motility, spindle formation and chromosome movements. Echinoderm microtubule-associated (EML) proteins function to modify the assembly dynamics of microtubules. EML2 (echinoderm microtubule associated protein like 2), also known as ELP70, EMAP2 or EMAPL2, is a cytoplasmic protein that acts to elongate microtubules, while at the same time making them more dynamic. Like other members of the EML family, EML2 contains a hydrophobic ELP (HELP) domain and a large WD repeat domain, both of which allow EML2 to participate in cytoskeleton assembly.

REFERENCES

1. 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.
2. Hamill, D.R., et al. 1998. Purification of a WD repeat protein, EMAP, that promotes microtubule dynamics through an inhibition of rescue. J. Biol. Chem. 273: 9285-9291.
3. Lepley, D.M., et al. 1999. Sequence and expression patterns of a human EMAP-related protein-2 (HuEMAP-2). Gene 237: 343-349.
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. Eichenmuller, B., et al. 2002. The human EMAP-like protein-70 (ELP70) is a microtubule destabilizer that localizes to the mitotic apparatus. J. Biol. Chem. 277: 1301-1309.
6. Zhang, Z., et al. 2005. Microglia activation in rat spinal cord by systemic injection of TLR3 and TLR7/8 agonists. J. Neuroimmunol. 164: 154-160.

CHROMOSOMAL LOCATION

Genetic locus: EML2 (human) mapping to 19q13.32.

PRODUCT

EML2 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 EML2 shRNA Plasmid (h): sc-97090-SH and EML2 shRNA (h) Lentiviral Particles: sc-97090-V as alternate gene silencing products.

For independent verification of EML2 (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-97090A, sc-97090B and sc-97090C.

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.

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

EML2 siRNA (h) is recommended for the inhibition of EML2 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 60 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

EML2 (F-3): sc-374627 is recommended as a control antibody for monitoring of EML2 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 EML2 gene expression knockdown using RT-PCR Primer: EML2 (h)-PR: sc-97090-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.