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CEP97 siRNA (m): sc-142292

BACKGROUND

Leucine-rich repeats (LRRs) are 20-30 amino acid motifs that mediate protein-protein interactions. The primary function of these motifs is to provide a versatile structural framework for the formation of these protein-protein interactions. LRRs are present in a variety of proteins with diverse structure and function, including innate immunity and nervous system development. Several human diseases are associated with mutations in the genes encoding LRR-containing proteins. CEP97 (centrosomal protein of 97 kDa), also known as LRR1Q2 (leucine-rich repeat and IQ domain-containing protein 2), is an 865 amino acid protein that contains six LRR repeats and one IQ domain, through which it binds calmodulin (CaM I). Localized to the centromere, CEP97 plays a role in cytokinesis and is required for correct spindle formation. CEP97 is also responsible for the recruitment of CEP110, a protein that is necessary for centrosomal duplication, to the centrosome. There are two isoforms of CEP110 which are produced as a result of alternative splicing events.

REFERENCES

1. Kobe, B., et al. 1994. The leucine-rich repeat: a versatile binding motif. *Trends Biochem. Sci.* 19: 415-421.
2. Kobe, B., et al. 2001. The leucine-rich repeat as a protein recognition motif. *Curr. Opin. Struct. Biol.* 11: 725-732.
3. Doxsey, S., et al. 2005. Centrosomes in cellular regulation. *Annu. Rev. Cell Dev. Biol.* 21: 411-434.
4. Matsushima, N.T., et al. 2005. Structural analysis of leucine-rich-repeat variants in proteins associated with human diseases. *Cell. Mol. Life Sci.* 62: 2771-2791.
5. Dolan, J., et al. 2007. The extracellular leucine-rich repeat superfamily; a comparative survey and analysis of evolutionary relationships and expression patterns. *BMC Genomics* 8: 320.
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CHROMOSOMAL LOCATION

Genetic locus: Cep97 (mouse) mapping to 16 C1.1.

PRODUCT

CEP97 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CEP97 shRNA Plasmid (m): sc-142292-SH and CEP97 shRNA (m) Lentiviral Particles: sc-142292-V as alternate gene silencing products.

For independent verification of CEP97 (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-142292A, sc-142292B and sc-142292C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CEP97 siRNA (m) is recommended for the inhibition of CEP97 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 μ M in 66 μ 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 CEP97 gene expression knockdown using RT-PCR Primer: CEP97 (m)-PR: sc-142292-PR (20 μ l). 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.