SANTA CRUZ BIOTECHNOLOGY, INC.

CEP350 siRNA (h): sc-78702

BACKGROUND

CEP350 (centrosome-associated protein 350) is a 3,117 amino acid protein that is required for anchoring microtubules to the centrosomes and for microtubule network integrity. As part of a ternary complex with SAS-6 and CENP-J, CEP350 plays an essential role in centriole growth by stabilizing a procentriolar seed. CEP350 modulates PPARα activity by recruiting it to discrete subcellular compartments, therefore influencing events in fatty acid metabolism. Expressed in testis, kidney, placenta, brain, heart, skeletal muscle, pancreas. liver and lung, CEP350 is phosphorylated during mitosis. In rare and aggressive myeloproliferative disorders, a gene translocation results in a Flg-FOP fusion protein, resulting in constitutive kinase activity at the centrosome. CEP350 is responsible for Flg-FOP localization to the centrosome, which leads to activation of PI 3-kinase and PLC γ1 and, consequently, inappropriate signaling resulting in continuous cell growth.

REFERENCES

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2. Andersen, J.S., et al. 2003. Proteomic characterization of the human centrosome by protein correlation profiling. Nature 426: 570-574.
3. Patel, H., et al. 2005. Activity and subcellular compartmentalization of peroxisome proliferator-activated receptor α are altered by the centrosome-associated protein CAP350. J. Cell Sci. 118: 175-186.
4. Yan, X., et al. 2006. A complex of two centrosomal proteins, CAP350 and FOP, cooperates with EB1 in microtubule anchoring. Mol. Biol. Cell 17: 634-644.
5. Nousiainen, M., et al. 2006. Phosphoproteome analysis of the human mitotic spindle. Proc. Natl. Acad. Sci. USA 103: 5391-5396.
6. Hoppeler-Lebel, A., et al. 2007. Centrosomal CAP350 protein stabilises microtubules associated with the Golgi complex. J. Cell Sci. 120: 3299-3308.
7. Lelièvre, H., et al. 2008. Myeloproliferative disorder FOP-FGFR1 fusion kinase recruits phosphoinositide-3 kinase and phospholipase Cγ at the centrosome. Mol. Cancer 7: 30.

CHROMOSOMAL LOCATION

Genetic locus: CEP350 (human) mapping to 1q25.2.

PRODUCT

CEP350 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 CEP350 shRNA Plasmid (h): sc-78702-SH and CEP350 shRNA (h) Lentiviral Particles: sc-78702-V as alternate gene silencing products.

For independent verification of CEP350 (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-78702A, sc-78702B and sc-78702C.

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

CEP350 siRNA (h) is recommended for the inhibition of CEP350 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CEP350 gene expression knockdown using RT-PCR Primer: CEP350 (h)-PR: sc-78702-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.