SANTA CRUZ BIOTECHNOLOGY, INC.

Katanin p60 AL2 siRNA (h): sc-75365

BACKGROUND

Microtubules are polymers of α and β subunits that form the mitotic spindle and assist in the organization of membranous organelles during interphase. Katanin is a heterodimer complex that severs microtubules in an ATP-dependent manner. The severing of microtubules by the Katanin complex may promote reorganization of cellular microtubule arrays and release of microtubules from the centrosome following nucleation. The Katanin complex is com-posed of a 60 kDa subunit (Katanin p60 A1) and a 80 kDa accessory protein (Katanin p80 B1). Katanin p60 A1 is responsible for the severing and disassembly of microtubules, while Katanin p80 B1 targets the complex to the centrosome. Katanin p60 A1 and Katanin p80 B1 belong to the AAA ATPase family, which also includes the Katanin p60 A1-like proteins, Katanin p60 AL1 and Katanin p60 AL2.

REFERENCES

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3. Hartman, J.J., et al. 1998. Katanin, a microtubule-severing protein, is a novel AAA ATPase that targets to the centrosome using a WD40-containing subunit. Cell 93: 277-287.
4. Ahmad, F.J., et al. 1999. An essential role for Katanin in severing microtubules in the neuron. J. Cell Biol. 145: 305-315.
5. McNally, K.P., et al. 2000. Two domains of p80 Katanin regulate microtubule severing and spindle pole targeting by p60 Katanin. J. Cell Sci. 113: 1623-1633.
6. Karabay, A., et al. 2004. Axonal growth is sensitive to the levels of Katanin, a protein that severs microtubules. J. Neurosci. 24: 5778-5788.
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CHROMOSOMAL LOCATION

Genetic locus: KATNAL2 (human) mapping to 18q21.1.

PRODUCT

Katanin p60 AL2 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 Katanin p60 AL2 shRNA Plasmid (h): sc-75365-SH and Katanin p60 AL2 shRNA (h) Lentiviral Particles: sc-75365-V as alternate gene silencing products.

For independent verification of Katanin p60 AL2 (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-75365A, sc-75365B and sc-75365C.

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

Katanin p60 AL2 siRNA (h) is recommended for the inhibition of Katanin p60 AL2 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 Katanin p60 AL2 gene expression knockdown using RT-PCR Primer: Katanin p60 AL2 (h)-PR: sc-75365-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.