SANTA CRUZ BIOTECHNOLOGY, INC.

ARK-3 siRNA (h): sc-60202

BACKGROUND

The Aurora kinase family includes Aurora related kinase-1 (also designated ARK-1, STK15, Aurora2, Aurora A, and Aik1), Aurora related kinase-2 (also designated ARK-2, STK12, Aik2, Aurora1, and Aurora B) and Aurora related kinase-3 (also designated ARK-3, Aik3 and Aurora C). They are centrosome-associated serine/threonine kinases that regulate centrosome separation, bipolar spindle assembly and chromosome segregation during mitosis. ARK-3 forms complexes with ARK-2 and inner centromere proteins, such as survivin and INCENP, and organizes microtubules in relation to centrosome/spindle function during mitosis. ARK-3 is highly expressed in testis in addition to its expression in several other tissues. ARK-3 has also been shown to be over-expressed in many different types of cancer cells, suggesting it normally functions as an antioncogenic agent.

REFERENCES

1. Sasai, K., et al. 2004. Aurora C kinase is a novel chromosomal passenger protein that can complement Aurora B kinase function in mitotic cells. Cell Motil. Cytoskeleton 59: 249-263.
2. Chen, H.L., et al. 2005. Overexpression of an Aurora C kinase-deficient mutant disrupts the Aurora B/INCENP complex and induces polyploidy. J. Biomed. Sci. 12: 297-310.
3. Yan, X., et al. 2005. Aurora C is directly associated with survivin and required for cytokinesis. Genes Cells 10: 617-626.
4. Yan, X., et al. 2005. Cloning and characterization of a novel human Aurora C splicing variant. Biochem. Biophys. Res. Commun. 328: 353-361.
5. Dutertre, S., et al. 2005. The absence of p53 aggravates polyploidy and centrosome number abnormality induced by Aurora C overexpression. Cell Cycle 4: 1783-1787.
6. Bolanos-Garcia, V.M. 2005. Aurora kinases. Int. J. Biochem. Cell Biol. 37: 1572-1577.
7. Ulisse, S., et al. 2006. Expression of Aurora kinases in human thyroid carcinoma cell lines and tissues. Int. J. Cancer 119: 275-282.
8. Tang, C.J., et al. 2006. Dynamic localization and functional implications of Aurora-C kinase during male mouse meiosis. Dev. Biol. 290: 398-410.

CHROMOSOMAL LOCATION

Genetic locus: AURKC (human) mapping to 19q13.43.

PRODUCT

ARK-3 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 ARK-3 shRNA Plasmid (h): sc-60202-SH and ARK-3 shRNA (h) Lentiviral Particles: sc-60202-V as alternate gene silencing products.

For independent verification of ARK-3 (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-60202A, sc-60202B and sc-60202C.

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

ARK-3 siRNA (h) is recommended for the inhibition of ARK-3 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 ARK-3 gene expression knockdown using RT-PCR Primer: ARK-3 (h)-PR: sc-60202-PR (20 µl, 444 bp). 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.