SANTA CRUZ BIOTECHNOLOGY, INC.

Speedy B siRNA (m): sc-153739

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The Power to Question

BACKGROUND

Members of the Speedy/Ringo family contain a conserved 140 amino acid domain called Speedy Box, which is essential for Cdk binding. Although they share no apparent amino acid sequence homology with cyclins, proteins in the Speedy/Ringo family can bind and activate Cdks. A common feature of all Speedy genes is their predominant expression in testis, suggesting that these genes play an important role in meiotic functions. Speedy B, also known as Speedy protein B (Spdyb), rapid inducer of G_2/M progression in oocytes B, Ringo B or mSpy/Ringo B, is a 268 amino acid nuclear mouse protein that belongs to the Speedy/Ringo family. Localizing to the testis, Speedy B promotes progression through the cell cycle via binding and activation of Cdc2 p34. The gene that encodes Speedy B maps to mouse chromosome 5 G2.

REFERENCES

1. Cheng, A., Xiong, W., Ferrell, J.E. and Solomon, M.J. 2005. Identification and comparative analysis of multiple mammalian Speedy/Ringo proteins. Cell Cycle 4: 155-165.
2. Yamazaki, Y. and Ward, W.S. 2011. A new Speedy/RINGO protein may help regulate male meiosis. Asian J. Androl. 13: 363.
3. Cheng, Y.M., Liu, M.L. and Jia, M.C. 2011. LM23 is a novel member of the Speedy/Ringo family at the crossroads of life and death of spermatogenic cell. Asian J. Androl. 13: 446-452.
4. Gopinathan, L., Ratnacaram, C.K. and Kaldis, P. 2011. Established and novel Cdk/cyclin complexes regulating the cell cycle and development. Results Probl. Cell Differ. 53: 365-389.
5. Chauhan, S., Zheng, X., Tan, Y.Y., Tay, B.H., Lim, S., Venkatesh, B. and Kaldis, P. 2012. Evolution of the Cdk-activator Speedy/RINGO in vertebrates. Cell Mol Life Sci. 69: 3835-3850.
6. Arumugam, K., MacNicol, M.C., Wang, Y., Cragle, C.E., Tackett, A.J., Hardy, L.L. and MacNicol, A.M. 2012. Ringo/cyclin-dependent kinase and mitogen-activated protein kinase signaling pathways regulate the activity of the cell fate determinant Musashi to promote cell cycle re-entry in *Xenopus* oocytes. J. Biol. Chem. 287: 10639-10649.

CHROMOSOMAL LOCATION

Genetic locus: Spdyb (mouse) mapping to 5 G2.

PRODUCT

Speedy B siRNA (m) is a pool of 2 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 Speedy B shRNA Plasmid (m): sc-153739-SH and Speedy B shRNA (m) Lentiviral Particles: sc-153739-V as alternate gene silencing products.

For independent verification of Speedy B (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-153739A and sc-153739B.

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

Speedy B siRNA (m) is recommended for the inhibition of Speedy B 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 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 Speedy B gene expression knockdown using RT-PCR Primer: Speedy B (m)-PR: sc-153739-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.