SANTA CRUZ BIOTECHNOLOGY, INC.

Mos siRNA (h): sc-39112

BACKGROUND

The cellular homolog of the v-Mos oncogene, originally derived from the Moloney strain murine sarcoma virus, has now been isolated from several species including human, mouse, chicken and *Xenopus*. In each of these species, the c-Mos proto-oncogene locus consists of a single exon which encodes Mos, a serine/threonine protein kinase involved in the regulation of the meiotic cell cycle in vertebrate oöcytes. Mos function during oocyte maturation is thought to be exerted through the stabilization or activation of the maturation promoting factor (MPF) complex. While the level of Mos expression is generally low in somatic cells, Mos is expressed at relatively high levels in germ cells. Mos can efficiently cause oncogenic transformation of somatic cells when ectopically expressed during the G_1 phase of the cell cycle. Mos activates MAPK, possibly through direct phosphorylation of the MAPKK MEK-1.

REFERENCES

1. Watson, R., et al. 1982. Human DNA sequence homologous to the transforming gen (Mos) of Moloney murine sarcoma virus. Proc. Natl. Acad. Sci. USA 79: 4078-4082.
2. Propst, F., et al. 1985. Expression of c-Mos proto-oncogene transcripts in mouse tissues. Nature 315: 516-518.
3. Schmidt, M., et al. 1988. Chicken homolog of the Mos proto-oncogene. Mol. Cell. Biol. 8: 923-929.
4. Okazaki, K., et al. 1995. MAP kinase activation is essential for oncogenic transformation of NIH3T3 cells by Mos. Oncogene 10: 1149-1157.
5. Chen, M., et al. 1995. Ser-3 is important for regulating Mos interaction with and stimulation of mitogen-activated protein kinase kinase. Mol. Cell. Biol. 15: 4727-4734.
6. Pham, C.D., et al. 1995. Characterization of MEK-1 phosphorylation by the v-Mos protein. Oncogene 10: 1683-1688.

CHROMOSOMAL LOCATION

Genetic locus: MOS (human) mapping to 8q12.1.

PRODUCT

Mos 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 Mos shRNA Plasmid (h): sc-39112-SH and Mos shRNA (h) Lentiviral Particles: sc-39112-V as alternate gene silencing products.

For independent verification of Mos (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-39112A, sc-39112B and sc-39112C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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

Mos siRNA (h) is recommended for the inhibition of Mos 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 Mos gene expression knockdown using RT-PCR Primer: Mos (h)-PR: sc-39112-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kotula, E., et al. 2013. DNA-PK target identification reveals novel links between DNA repair signaling and cytoskeletal regulation. PLoS ONE 8: e80313.

RESEARCH USE

For research use only, not for use in diagnostic procedures.