SANTA CRUZ BIOTECHNOLOGY, INC.

p68 RNA Helicase siRNA (h): sc-37141

BACKGROUND

p68 RNA Helicase is a nuclear protein that exhibits RNA-dependent ATPase activity. Phosphorylation by protein kinase C inhibits p68 RNA Helicase activity. p68 RNA Helicase appears to play a role in organ differentiation during development. Furthermore, p68 RNA Helicase is expressed in early neural development and in various mesodermal tissues in a number of different chordate embryos. At the cellular level, the expression levels of p68 RNA Helicase increases in serum-induced quiescent cell lines. p68 RNA Helicase may function as a co-activator for estrogen receptor α. Additionally, p68 RNA Helicase associates with transcriptional co-activators CBP and p300. p68 RNA Helicase localizes to the nucleus under normal conditions. During late telophase, p68 RNA Helicase and fibrillarin co-localize to nascent nucleoli. p68 RNA Helicase may function as a heterodimer with p72 RNA Helicase.

REFERENCES

1. Hirling, H., et al. 1989. RNA helicase activity associated with the human p68 protein. Nature 339: 562-564.
2. Buelt, M.K., et al. 1994. Regulation of p68 RNA Helicase by calmodulin and protein kinase C. J. Biol. Chem. 269: 29367-29370.
3. Stevenson, R.J., et al. 1998. Expression of the "dead box" RNA Helicase p68 is developmentally and growth regulated and correlates with organ differentiation/maturation in the fetus. J. Pathol. 184: 351-359.
4. Endoh, H., et al. 1999. Purification and identification of p68 RNA Helicase acting as a transcriptional coactivator specific for the activation function 1 of human estrogen receptor α. Mol. Cell. Biol. 19: 5363-5372.

CHROMOSOMAL LOCATION

Genetic locus: DDX5 (human) mapping to 17q23.3.

PRODUCT

p68 RNA Helicase 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 p68 RNA Helicase shRNA Plasmid (h): sc-37141-SH and p68 RNA Helicase shRNA (h) Lentiviral Particles: sc-37141-V as alternate gene silencing products.

For independent verification of p68 RNA Helicase (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-37141A, sc-37141B and sc-37141C.

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

p68 RNA Helicase siRNA (h) is recommended for the inhibition of p68 RNA Helicase 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.

GENE EXPRESSION MONITORING

p68 RNA Helicase (D-7): sc-365164 is recommended as a control antibody for monitoring of p68 RNA Helicase gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor p68 RNA Helicase gene expression knockdown using RT-PCR Primer: p68 RNA Helicase (h)-PR: sc-37141-PR (20 µl, 599 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Han, B., et al. 2018. FOXC1-induced non-canonical WNT5A-MMP7 signaling regulates invasiveness in triple-negative breast cancer. Oncogene 37: 1399-1408.
2. Wang, R., et al. 2019. p68 RNA Helicase promotes invasion of glioma cells through negatively regulating DUSP5. Cancer Sci. 110: 107-117.
3. Panchbhai, N., et al. 2021. P68 RNA helicase facilitates breast cancer progression by promoting proliferation and migration via PDGFR-β/AR axis. J. Cancer 12: 6543-6552.

RESEARCH USE

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