SANTA CRUZ BIOTECHNOLOGY, INC.

Dmp1 siRNA (h): sc-38068

BACKGROUND

The highly leukemogenic avian retrovirus E26 contains two oncogenes, v-Myb and v-Ets, which are expressed together as a fusion protein. The cellular homolog of v-Myb, designated c-Myb, encodes a transcription factor. Deletion or disruption of a negative regulatory domain mapping within the carboxy terminal domain of c-Myb results in enhanced transactivating capacity and in parallel, leads to activation of its ability to transform hemopoietic cells. c-Myb is expressed preferentially, but not exclusively, in immature hemopoietic cells and its expression decreases as cells differentiate. A second member of the Myb proto-oncogene family, B-Myb, encodes another sequence-specific DNA binding protein. Studies suggest that B-Myb expression rescues cells from p53-induced G_1 Arrest mediated by p21. Dmp1 has also been identified as a Myb-like transcription factor. It contains three tandem Myb repeats and has been shown to be a substrate for cyclin D-dependent kinases.

REFERENCES

1. Gonda, T.J. et al. 1984. Expression of Myb, Myc and Fos proto-oncogenes during the differentiation of a murine myeloid leukaemia. Nature 310: 249-251.
2. Gonda, T.J., et al. 1985. Nucleotide sequence of cDNA clones of the murine Myb proto-oncogene. EMBO J. 4: 2003-2008.
3. Sakura, H., et al. 1989. Delineation of three functional domains of the transcriptional activator encoded by the c-Myb proto-oncogene. Proc. Natl. Acad. Sci. USA 86: 5758-5762.
4. Mizuguchi, G., et al. 1990. DNA binding activity and transcriptional activator function of the human B-Myb protein compared with c-Myb. J. Biol. Chem. 265: 9280-9284.
5. Ramsay, R.G., et al. 1991. Increase in specific DNA binding by carboxyl truncation suggests a mechanism for activation of Myb. Oncogene 6: 1875-1879.
6. Favier, D. et al. 1994. Detection of proteins that bind to the leucine zipper motif of c-Myb. Oncogene 9: 305-311.
7. Lin, D., et al. 1994. Constitutive expression of B-Myb can bypass p53-induced Waf1/Cip1-mediated G_1 Arrest. Proc. Natl. Acad. Sci. USA 91: 10079-10083.

CHROMOSOMAL LOCATION

Genetic locus: DMTF1 (human) mapping to 7q21.12.

PRODUCT

Dmp1 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 Dmp1 shRNA Plasmid (h): sc-38068-SH and Dmp1 shRNA (h) Lentiviral Particles: sc-38068-V as alternate gene silencing products.

For independent verification of Dmp1 (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-38068A, sc-38068B and sc-38068C.

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

Dmp1 siRNA (h) is recommended for the inhibition of Dmp1 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

Dmp1 (DMTF5I250): sc-81249 is recommended as a control antibody for monitoring of Dmp1 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 Dmp1 gene expression knockdown using RT-PCR Primer: Dmp1 (h)-PR: sc-38068-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.