SANTA CRUZ BIOTECHNOLOGY, INC.

DPPA2 siRNA (m): sc-77177

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The Power to Question

BACKGROUND

DPPA2 (developmental pluripotency associated 2), also known as PESCRG1 (pluripotent embryonic stem cell-related gene 1 protein), is a 298 amino acid protein that localizes to the nucleus and contains one SAP domain. Expressed in embryonic stem cells, DPPA2 is thought to play a role in the maintenance of cell pluripotentiality and is associated with abnormal cell growth and cancer formation. The gene encoding DPPA2 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

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3. Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. Genomics 83: 193-202.
4. Yue, Y., et al. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. Genomics 85: 36-47.
5. Darai, E., et al. 2005. Evolutionarily plastic regions at human 3p21.3 coincide with tumor breakpoints identified by the "elimination test". Genomics 86: 1-12.
6. Maldonado-Saldivia, J., et al. 2007. DPPA2 and DPPA4 are closely linked SAP motif genes restricted to pluripotent cells and the germ line. Stem Cells 25: 19-28.
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8. Monk, M., et al. 2008. Differential expression of the embryo/cancer gene ECSA(DPPA2), the cancer/testis gene BORIS and the pluripotency structural gene OCT4, in human preimplantation development. Mol. Hum. Reprod. 14: 347-355.
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CHROMOSOMAL LOCATION

Genetic locus: Dppa2 (mouse) mapping to 16 B5.

PROTOCOLS

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

PRODUCT

DPPA2 siRNA (m) 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 DPPA2 shRNA Plasmid (m): sc-77177-SH and DPPA2 shRNA (m) Lentiviral Particles: sc-77177-V as alternate gene silencing products.

For independent verification of DPPA2 (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-77177A, sc-77177B and sc-77177C.

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

DPPA2 siRNA (m) is recommended for the inhibition of DPPA2 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 DPPA2 gene expression knockdown using RT-PCR Primer: DPPA2 (m)-PR: sc-77177-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.