

STELLA siRNA (m): sc-153891

BACKGROUND

STELLA, also known as DPPA3 and PCG7, is a member of the developmental pluripotency-associated protein family thought to play a key role in embryonic germ cell development. Expressed highly in fetal ovary with lower expression found in the testis and thymus, STELLA contributes to germ cell differentiation and acts as a maternal factor regulating early embryogenesis. In addition to contributing to normal embryonic development, STELLA is overexpressed in testicular germ cell tumors, indicating a possible role in tumor formation. The elevated levels of STELLA observed in carcinoma cells suggest that it may be a novel candidate for early cancer detection.

REFERENCES

1. Saitou, M. et al. 2002. A molecular programme for the specification of germ cell fate in mice. *Nature* 418: 293-300.
2. Payer, B. et al. 2003. STELLA is a maternal effect gene required for normal early development in mice. *Curr. Biol.* 13: 2110-2117.
3. Bowles, J. et al. 2003. DPPA3 is a marker of pluripotency and has a human homologue that is expressed in germ cell tumours. *Cytogenet. Genome Res.* 101: 261-265.
4. Bortvin, A. et al. 2004. DPPA3/PCG7/STELLA is a maternal factor and is not required for germ cell specification in mice. *BMC Dev. Biol.* 4: 2.
5. Tanaka, S.S., et al. 2005. IFITM/Mil/fragilis family proteins IFITM1 and IFITM3 play distinct roles in mouse primordial germ cell homing and repulsion. *Dev. Cell* 9: 745-756.

CHROMOSOMAL LOCATION

Genetic locus: Dppa3 (mouse) mapping to 6 F1.

PRODUCT

STELLA 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see STELLA shRNA Plasmid (m): sc-153891-SH and STELLA shRNA (m) Lentiviral Particles: sc-153891-V as alternate gene silencing products.

For independent verification of STELLA (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-153891A and sc-153891B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

STELLA siRNA (m) is recommended for the inhibition of STELLA 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 μ M in 66 μ l. 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

STELLA (D-5): sc-376862 is recommended as a control antibody for monitoring of STELLA 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 STELLA gene expression knockdown using RT-PCR Primer: STELLA (m)-PR: sc-153891-PR (20 μ l, 523 bp). 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.