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PLU-1 siRNA (m): sc-44523

BACKGROUND

PLU-1 is a large (1,544 amino acids) nuclear protein that interacts with brain factor-1 (BF-1) and paired box 9 (PAX9), both of which are developmental transcription factors. PLU-1 belongs to the testis-cancer antigen group of proteins and is a member of the ARID family of DNA binding proteins. It is a multi-domain protein with strong transcriptional repression properties. PLU-1 shows restricted expression in adult tissues, with high expression in testis, and transiently in the pregnant mammary gland. Both the PLU-1 gene and the PLU-1 protein product are specifically upregulated in breast cancer. PLU-1 may be important in meiotic transcription because of its apparent association with chromatin.

REFERENCES

- Lu, P.J., et al. 1999. A novel gene (PLU-1) containing highly conserved putative DNA/chromatin binding motifs is specifically upregulated in breast cancer. *J. Biol. Chem.* 274: 15633-15645.
- Madsen, B., et al. 2002. Characterisation and developmental expression of mouse PLU-1, a homolog of a human nuclear protein (PLU-1) which is specifically upregulated in breast cancer. *Mech. Dev.* 119S239-119S246.
- Tan, K., et al. 2003. Human PLU-1 has transcriptional repression properties and interacts with the developmental transcription factors BF-1 and PAX9. *J. Biol. Chem.* 278: 20507-20513.
- Madsen, B., et al. 2003. PLU-1, a transcriptional repressor and putative testis-cancer antigen, has a specific expression and localization pattern during meiosis. *Chromosoma* 112: 124-132.

CHROMOSOMAL LOCATION

Genetic locus: Kdm5b (mouse) mapping to 1 E4.

PRODUCT

PLU-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PLU-1 shRNA Plasmid (m): sc-44523-SH and PLU-1 shRNA (m) Lentiviral Particles: sc-44523-V as alternate gene silencing products.

For independent verification of PLU-1 (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-44523A, sc-44523B and sc-44523C.

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

PLU-1 siRNA (m) is recommended for the inhibition of PLU-1 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

PLU-1 (7H3D7): sc-517291 is recommended as a control antibody for monitoring of PLU-1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PLU-1 gene expression knockdown using RT-PCR Primer: PLU-1 (m)-PR: sc-44523-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Xia, M., et al. 2013. Histone methyltransferase ASH1L suppresses interleukin-6 production and inflammatory autoimmune diseases by inducing the ubiquitin-editing enzyme A20. *Immunity* 39: 470-481.

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.