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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

PLU-1 siRNA (h): sc-44522

BACKGROUND

PLU-1 is a large (1544 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. *Gene Expr. Patterns* 2: 275-282.
- 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.
- Catteau, A., et al. 2004. A short region of the promoter of the breast cancer associated PLU-1 gene can regulate transcription *in vitro* and *in vivo*. *Int. J. Oncol.* 25: 5-16.

CHROMOSOMAL LOCATION

Genetic locus: KDM5B (human) mapping to 1q32.1.

PRODUCT

PLU-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PLU-1 shRNA Plasmid (h): sc-44522-SH and PLU-1 shRNA (h) Lentiviral Particles: sc-44522-V as alternate gene silencing products.

For independent verification of PLU-1 (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-44522A, sc-44522B and sc-44522C.

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.

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 (h) is recommended for the inhibition of PLU-1 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 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 (h)-PR: sc-44522-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.