SANTA CRUZ BIOTECHNOLOGY, INC.

PARM-1 siRNA (h): sc-89313

BACKGROUND

PARM-1 (prostate androgen-regulated mucin-like protein 1), also known as WSC4 or Cipar1, is a 310 amino acid single-pass type I membrane protein that is widely expressed with highest levels in heart, kidney and placenta. Induced by androgens, PARM-1 may participate in regulating telomerase activity and in the expression of TP1 (telomerase associated protein 1), thereby enabling specific prostatic cells to resist apoptosis. In rats, an increase in PARM-1 expression in response to ER stress inducers, such as thapsigargin and tunicamycin, result in apoptotic cell death. Downregulation of PARM-1 expression enhances apoptotic response in cardiac myocytes to ER stresses and represses or augments expression of ER stress associated proteins PERK, ATF-6α and GADD 153 (also known as CHOP). This suggests that PARM-1 expression is regulated by ER stress and plays a protective role in cardiac myocytes. Localized to the golgi apparatus and the endoplasmic reticulum, PARM-1 is highly N- and O-glycosylated.

REFERENCES

1. Colombel, M.C. and Buttyan, R. 1995. Hormonal control of apoptosis: the rat prostate gland as a model system. Methods Cell Biol. 46: 369-385.
2. Bruyninx, M., Hennuy, B., Cornet, A., Houssa, P., Daukandt, M., Reiter, E., Poncin, J., Closset, J. and Hennen, G. 1999. A novel gene overexpressed in the prostate of castrated rats: hormonal regulation, relationship to apoptosis and to acquired prostatic cell androgen independence. Endocrinology 140: 4789-4799.
3. Buttyan, R., Ghafar, M.A. and Shabsigh, A. 2000. The effects of androgen deprivation on the prostate gland: cell death mediated by vascular regression. Curr. Opin. Urol. 10: 415-420.
4. Cornet, A.M., Hanon, E., Reiter, E.R., Bruyninx, M., Nguyen, V.H., Hennuy, B.R., Hennen, G.P. and Closset, J.L. 2003. Prostatic androgen repressed message-1 (PARM-1) may play a role in prostatic cell immortalisation. Prostate 56: 220-230.
5. Fladeby, C., Gupta, S.N., Barois, N., Lorenzo, P.I., Simpson, J.C., Saatcioglu, F. and Bakke, O. 2008. Human PARM-1 is a novel mucin-like, androgen-regulated gene exhibiting proliferative effects in prostate cancer cells. Int. J. Cancer 122: 1229-1235.
6. Song, S.H., Hong, Y.H., Sasaki, S., Roh, S.G. and Katoh, K. 2009. Prostatic androgen-repressed message-1 as a regulator of adipocyte differentiation in the mouse. Tohoku J. Exp. Med. 219: 311-317.
7. Isodono, K., Takahashi, T., Imoto, H., Nakanishi, N., Ogata, T., Asada, S., Adachi, A., Ueyama, T., Oh, H. and Matsubara, H. 2010. PARM-1 is an endoplasmic reticulum molecule involved in endoplasmic reticulum stress-induced apoptosis in rat cardiac myocytes. PLoS ONE 5: e9746.

CHROMOSOMAL LOCATION

Genetic locus: PARM1 (human) mapping to 4q13.3.

PROTOCOLS

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

PRODUCT

PARM-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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PARM-1 shRNA Plasmid (h): sc-89313-SH and PARM-1 shRNA (h) Lentiviral Particles: sc-89313-V as alternate gene silencing products.

For independent verification of PARM-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-89313A, sc-89313B and sc-89313C.

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

PARM-1 siRNA (h) is recommended for the inhibition of PARM-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 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 PARM-1 gene expression knockdown using RT-PCR Primer: PARM-1 (h)-PR: sc-89313-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.