SANTA CRUZ BIOTECHNOLOGY, INC.

FKBPL siRNA (h): sc-95250

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The Power to Question

BACKGROUND

The immunophilins are a highly conserved family of *cis-trans* peptidyl-prolyl isomerases that bind to and mediate the effects of immunosuppressive drugs, such as cyclosporin, FK506 and rapamycin. FKBPL (FK506-binding protein-like), also known as WAF-1/CIP1 stabilizing protein 39 and DIR1, is a 349 amino acid immunophilin protein that recruits Hsp90 to stabilize p21 by preventing its proteosomal degradation. After ionizing radiation, FKBPL is transiently repressed and may play a role in induced radioresistance through a mechanism that increases rate of DNA repair in X ray exposed cells. siRNA knockdown of FKBPL results in decreased levels of cell cycle inhibitor $p21^{WAF1}$ and increased ER-α phosphorylation in response to 17β-estradiol and tamoxifen. This evidence suggests that FKBPL may have an impact on tumor proliferative capacity and sensitivity to endocrine therapies.

REFERENCES

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3. Xie, T., et al. 2003. Analysis of the gene-dense major histocompatibility complex class III region and its comparison to mouse. Genome Res. 13: 2621-2636.
4. Benzeno, S. and Diehl, J.A. 2005. A novel WISp39 protein links Hsp90 and p21 stability to the G_2/M checkpoint. Cancer Biol. Ther. 4: 376-378.
5. Jascur, T., et al. 2005. Regulation of $p21^{WAF1/CIP1}$ stability by WISp39, a Hsp90 binding TPR protein. Mol. Cell 17: 237-249.
6. McKeen, H.D., et al. 2008. A novel FK506-like binding protein interacts with the glucocorticoid receptor and regulates steroid receptor signaling. Endocrinology 149: 5724-5734.
7. McKeen, H.D., et al. 2010. FKBPL regulates estrogen receptor signaling and determines response to endocrine therapy. Cancer Res. 70: 1090-1100.
8. Bublik, D.R., et al. 2010. Human GTSE-1 regulates $p21^{CIP1/WAF1}$ stability conferring resistance to paclitaxel treatment. J. Biol. Chem. 285: 5274-5281.
9. Sunnotel, O., et al. 2010. Alterations in the steroid hormone receptor co-chaperone FKBPL are associated with male infertility: a case-control study. Reprod. Biol. Endocrinol. 8: 22.

CHROMOSOMAL LOCATION

Genetic locus: FKBPL (human) mapping to 6p21.33.

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.

PRODUCT

FKBPL 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 FKBPL shRNA Plasmid (h): sc-95250-SH and FKBPL shRNA (h) Lentiviral Particles: sc-95250-V as alternate gene silencing products.

For independent verification of FKBPL (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-95250A, sc-95250B and sc-95250C.

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

FKBPL siRNA (h) is recommended for the inhibition of FKBPL 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 FKBPL gene expression knockdown using RT-PCR Primer: FKBPL (h)-PR: sc-95250-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.