SANTA CRUZ BIOTECHNOLOGY, INC.

FKBP25 siRNA (h): sc-92113

BACKGROUND

FKBP25 (FK506 binding protein 25), also known as PPIase or FKBP3, is a member of the immunophilin protein family. 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. They inhibit T-cell proliferation by interrupting two specific cytoplasmic signal transmission pathways. FKBP25 is localized in the nucleus and is expressed in the brain, testis, ovary, and spleen. It may influence immunoregulation and cerebellum development, as well as protein folding and trafficking in neurons. FKBP25 associates with transcriptional repressor protein YY1 and histone deaceltylases, HDAC1 and HDAC2. FKBP25 may contain several casein kinase II phosphorylation sites, which are believed to be important for cell growth regulation.

REFERENCES

1. Hung, D.T. and Schreiber, S.L. 1992. cDNA cloning of a human 25 kDa FK506 and rapamycin binding protein. Biochem. Biophys. Res. Commun. 184: 733-738.
2. Jin, Y.J. and Burakoff, S.J. 1993. The 25-kDa FK506-binding protein is localized in the nucleus and associates with casein kinase II and nucleolin. Proc. Natl. Acad. Sci. USA 90: 7769-7773.
3. Coss, M.C., et al. 1996. Molecular cloning, DNA sequence analysis, and biochemical characterization of a novel 65-kDa FK506-binding protein (FKBP65). J. Biol. Chem. 270: 29336-29341.
4. Kitagawa, H., et al. 1997. Cloning and high expression of rabbit FKBP25 in cornea. Jpn. J. Ophthalmol. 40: 133-141.
5. Johnson, K.L. and Lawen, A. 1999. Rapamycin inhibits didemnin B-induced apoptosis in human HL-60 cells: evidence for the possible involvement of FK506-binding protein 25. Immunol. Cell Biol. 77: 242-248.
6. Ahn, J., et al. 1999. Down-regulation of the stathmin/Op18 and FKBP25 genes following p53 induction. Oncogene 18: 5954-5958.
7. Yang, W.M., et al. 2001. The FK506-binding protein 25 functionally associates with histone deacetylases and with transcription factor YY1. EMBO J. 20: 4814-4825.

CHROMOSOMAL LOCATION

Genetic locus: FKBP3 (human) mapping to 14q21.2.

PRODUCT

FKBP25 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 FKBP25 shRNA Plasmid (h): sc-92113-SH and FKBP25 shRNA (h) Lentiviral Particles: sc-92113-V as alternate gene silencing products.

For independent verification of FKBP25 (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-92113A, sc-92113B and sc-92113C.

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

FKBP25 siRNA (h) is recommended for the inhibition of FKBP25 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.

GENE EXPRESSION MONITORING

FKBP25 (H-6): sc-374357 is recommended as a control antibody for monitoring of FKBP25 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 FKBP25 gene expression knockdown using RT-PCR Primer: FKBP25 (h)-PR: sc-92113-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.

PROTOCOLS

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