SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 56 siRNA (m): sc-35603

BACKGROUND

HSP 56 (also designated FKBP4, FK506 binding protein 4, HBI, p52, FKBP52, FKBP59 and PPIase) is a *cis-trans* prolyl isomerase belonging to the immunophilin protein family. The human HSP 56 gene (FKBP4) has multiple polyadenylation sites and the HSP 56 protein can undergo phosphorylation. HSP 56 influences immunoregulatory gene expression in lymphocytes, protein folding and trafficking. It can serve as a co-chaperone for steroid hormone nuclear receptors to govern appropriate hormone action in target tissues. The protein can associate with phytanoyl-CoA alpha-hydroxylase (PHYH) and with HSP 90 through a series of tetratricopeptide repeat (TPR) domains. HSP 56 is a TRPC ion channel accessory protein that modulates channel activation following receptor stimulation.

REFERENCES

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2. Galigniana, M.D., et al. 2004. HSP 90-binding immunophilins link p53 to Dynein during p53 transport to the nucleus. J. Biol. Chem. 279: 22483-22489.
3. Sanokawa-Akakura, R., et al. 2004. A novel role for the immunophilin FKBP52 in copper transport. J. Biol. Chem. 279: 27845-27848.
4. Sinkins, W.G., et al. 2004. Association of immunophilins with mammalian TRPC channels. J. Biol. Chem. 279: 34521-34529.
5. Davies, T.H., et al. 2005. FKBP52. Int. J. Biochem. Cell Biol. 37: 42-47.
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7. Prince, T., et al. 2005. Evidence for chaperone heterocomplexes containing both HSP 90 and VCP. Biochem. Biophys. Res. Commun. 331: 1331-1337.
8. Tranguch, S., et al. 2005. Co-chaperone immunophilin FKBP52 is critical to uterine receptivity for embryo implantation. Proc. Natl. Acad. Sci. USA 102: 14326-14331.

CHROMOSOMAL LOCATION

Genetic locus: Fkbp4 (mouse) mapping to 6 F3.

PRODUCT

HSP 56 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HSP 56 shRNA Plasmid (m): sc-35603-SH and HSP 56 shRNA (m) Lentiviral Particles: sc-35603-V as alternate gene silencing products.

For independent verification of HSP 56 (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-35603A, sc-35603B and sc-35603C.

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

HSP 56 siRNA (m) is recommended for the inhibition of HSP 56 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 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

HSP 56 (329.1): sc-100758 is recommended as a control antibody for monitoring of HSP 56 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 HSP 56 gene expression knockdown using RT-PCR Primer: HSP 56 (m)-PR: sc-35603-PR (20 µl, 452 bp). 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.