SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 90α/β siRNA (h): sc-35608

BACKGROUND

The heat shock response was first described for *Drosophila* salivary gland cells and morphologically consists of a change in their polytene chromosome puffing patterns that involves *de novo* synthesis of a few proteins. Similar heat shock proteins were later discovered in bacterial chicken and mammalian cells, and have been subsequently studied in other organisms. A series of proteins including HSP 90, HSP 70, HSP 20-30 and ubiquitin are induced by insults such as temperature shock, chemicals and other environmental stress. A major function of HSP 90 and other HSPs is to act as molecular chaperones. HSP 90 forms a complex with glucocorticoid receptor (GR), rendering the non ligand-bound receptor transcriptionally inactive. HSP 90 binds the GR as a heterocomplex composed of either HSP 56 or Cyclophilin D, forming an aporeceptor complex. HSP 90 also exists as a dimer with other proteins such as p60/sti1 and p23, forming an aporeceptor complex with estrogen and androgen receptors.

PRODUCT

HSP 90α/β siRNA (h) is a pool of 4 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 90α/β shRNA Plasmid (h): sc-35608-SH and HSP 90α/β shRNA (h) Lentiviral Particles: sc-35608-V as alternate gene silencing products.

For independent verification of HSP 90α/β (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-35608A, sc-35608B, sc-35608C and sc-35608D.

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 90α/β siRNA (h) is recommended for the inhibition of HSP 90α/β 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

HSP 90α/β (F-8): sc-13119 is recommended as a control antibody for monitoring of HSP 90α/β 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).

SELECT PRODUCT CITATIONS

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4. Bukong, T.N., et al. 2013. Ethanol facilitates hepatitis C virus replication via up-regulation of GW182 and heat shock protein 90 in human hepatoma cells. Hepatology 57: 70-80.
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6. Brito, H., et al. 2015. Targeting KRAS oncogene in colon cancer cells with 7-carboxylate indolo[3,2-b]quinoline Tri-alkylamine derivatives. PLoS ONE 10: e0126891.
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9. Xu, Q., et al. 2017. HSP 90 promotes cell glycolysis, proliferation and inhibits apoptosis by regulating PKM2 abundance via Thr-328 phosphorylation in hepatocellular carcinoma. Mol. Cancer 16: 178.
10. Elzakra, N., et al. 2017. Mass spectrometric analysis of SOX11-binding proteins in head and neck cancer cells demonstrates the interaction of SOX11 and HSP 90α. J. Proteome Res. 16: 3961-3968.
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12. Ye, M., et al. 2017. FM807, a curcumin analogue, shows potent antitumor effects in nasopharyngeal carcinoma cells by heat shock protein 90 inhibition. Oncotarget 8: 15364-15376.
13. Fan, Y.J., et al. 2018. C1206, a novel curcumin derivative, potently inhibits Hsp90 and human chronic myeloid leukemia cells *in vitro.* Acta Pharmacol. Sin. 39: 649-658.

RESEARCH USE

For research use only, not for use in diagnostic procedures.