SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 20 siRNA (m): sc-45676

BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, including the assembly and sequestering of multiprotein complexes, transportation of nascent polypeptide chains across cellular membranes and regulation of protein folding. Heat shock proteins (also known as molecular chaperones) fall into six general families: HSP 90, HSP 70, HSP 60, the low molecular weight HSPs, the immunophilins and the HSP 110 family. The low molecular weight family includes HSP 10, HSP 20, HSP 27 (Heme Oxygenase 1), HSP 32 and HSP 40. HSP 20 occurs in two complex sizes, dimers and multimers. It is related to stress proteins and occurs most abundantly in skeletal muscle and heart. HSP 20 is considerably shorter at the C-terminus and less polar than other small heat shock proteins.

REFERENCES

1. van de Klundert, F.A., et al. 1998. The mammalian small heat-shock protein HSP 20 forms dimers and is a poor chaperone. Eur. J. Biochem. 258: 1014-1021.
2. Bukach, O.V., et al. 2004. Some properties of human small heat shock protein HSP 20 (HSPB 6). Eur. J. Biochem. 271: 291-302.
3. Gusev, N.B., et al. 2005. Structure, properties and probable physiological role of small heat shock protein with molecular mass 20 kD (HSP 20, HSP 6). Biochemistry 70: 629-637.
4. Batts, T.W., et al. 2005. Absence of force suppression in rabbit bladder correlates with low expression of heat shock protein 20. BMC Physiol. 5: 16.
5. Bukach, O.V., et al. 2005. Small heat shock protein with apparent molecular mass 20 kDa (HSP 20, HSP B6) is not a genuine Actin-binding protein. J. Muscle Res. Cell Motil. 26: 175-181.
6. Fontaine, J.M., et al. 2005. Interactions of HSP22 (HSPB8) with HSP 20, αB-crystallin and HSPB3. Biochem. Biophys. Res. Commun. 337: 1006-1011.

CHROMOSOMAL LOCATION

Genetic locus: Hspb6 (mouse) mapping to 7 B1.

PRODUCT

HSP 20 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 20 shRNA Plasmid (m): sc-45676-SH and HSP 20 shRNA (m) Lentiviral Particles: sc-45676-V as alternate gene silencing products.

For independent verification of HSP 20 (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-45676A, sc-45676B and sc-45676C.

PROTOCOLS

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

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 20 siRNA (m) is recommended for the inhibition of HSP 20 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HSP 20 gene expression knockdown using RT-PCR Primer: HSP 20 (m)-PR: sc-45676-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.