SANTA CRUZ BIOTECHNOLOGY, INC.

HSF2BP siRNA (h): sc-62480

BACKGROUND

HSF2BP (heat shock factor 2-binding protein) is a 334 amino acid protein encoded by the human gene HSF2BP. The HSF2BP protein has an N-terminal hydrophilic region predicted to form an α-helical structure containing two leucine zipper motifs. The C-terminal region is largely hydrophobic and forms β sheets. Heat shock factors (HSFs) bind to heat-shock elements (HSE) that are promoter sites for heat shock proteins. Unlike HSF1 and HSF3, HSF2 is not activated by environmental stresses such as heat; instead, it is thought to be important in differentiation and development. HSF2BP associates with HSF2 *in vitro* and *in vivo* and is specifically expressed in testis. The interaction occurs between the trimerization domain of HSF2 and the N-terminal hydrophilic region of HSF2BP that comprises two leucine zipper motifs. This indicates HSF2BP may be involved in modulating HSF2 activation in testis.

REFERENCES

1. Sarge, K.D., Park-Sarge, O.K., Kirby, J.D., Mayo, K.E. and Morimoto, R.I. 1994. Expression of heat shock factor 2 in mouse testis: potential role as a regulator of heat shock protein gene expression during spermatogenesis. Biol. Reprod. 50: 1334-1343.
2. Goodson, M.L., Park-Sarge, O.K. and Sarge, K.D. 1995. Tissue-dependent expression of heat shock factor 2 isoforms with distinct transcriptional activities. Mol. Cell. Biol. 15: 5288-5293.
3. Yoshima, T., Yura, T. and Yanagi, H. 1998. Novel testis-specific protein that interacts with heat shock factor 2. Gene 214: 139-146.
4. He, H., Soncin, F., Grammatikakis, N., Li, Y., Siganou, A., Gong, J., Brown, S.A., Kingston, R.E. and Calderwood, S.K. 2003. Elevated expression of heat shock factor (HSF) 2A stimulates HSF1-induced transcription during stress. J. Biol. Chem. 278: 35465-35475.
5. Jakobs, A., Himstedt, F., Funk, M., Korn, B., Gaestel, M. and Niedenthal, R. 2007. UBC9 fusion-directed SUMOylation identifies constitutive and inducible SUMOylation. Nucleic Acids Res. 35: e109.

CHROMOSOMAL LOCATION

Genetic locus: HSF2BP (human) mapping to 21q22.3.

PRODUCT

HSF2BP 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 HSF2BP shRNA Plasmid (h): sc-62480-SH and HSF2BP shRNA (h) Lentiviral Particles: sc-62480-V as alternate gene silencing products.

For independent verification of HSF2BP (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-62480A, sc-62480B and sc-62480C.

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

HSF2BP siRNA (h) is recommended for the inhibition of HSF2BP 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

HSF2BP (5): sc-130322 is recommended as a control antibody for monitoring of HSF2BP 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 HSF2BP gene expression knockdown using RT-PCR Primer: HSF2BP (h)-PR: sc-62480-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.