SANTA CRUZ BIOTECHNOLOGY, INC.

Zhangfei siRNA (m): sc-61826

BACKGROUND

Host cell factor (HCF) is a cellular cofactor required for the activation of VP16 which expresses the herpes simplex virus immediate early gene. V16 binds to HCF through a 4-amino acid motif similar to the HCF binding domain of the basic leucine-zipper proteins Luman and Zhangfei (ZF). Luman activates promoters containing cAMP or unfolded protein response elements (UPRE). Zhangfei suppresses the transcriptional activity of Luman, but requires HCF binding which may target Luman and Zhangfei to a common location. Sequence analysis predicts that the deduced 272-amino acid Zhangfei protein has a negatively charged N terminus, a leucine zipper of six heptad leucine repeats separated by a conserved 6-amino acid spacer, a basic domain, and a bZIP region. It is also presumed that the N-terminal acidic region of Zhangfei is an activation domain.

REFERENCES

1. Lu, R. and Misra, V. 2000. Zhangfei: a second cellular protein interacts with herpes simplex virus accessory factor HCF in a manner similar to Luman and VP16. Nucleic Acids Res. 28: 2446-2454.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606444. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Akhova, O., et al. 2005. The neuronal host cell factor-binding protein Zhangfei inhibits herpes simplex virus replication. J. Virol. 79: 14708-14718.
4. Cockram, G.P., et al. 2005. Identification and characterization of the DNA-binding properties of a Zhangfei homologue in Japanese pufferfish, *Takifugu rubripes*. Biochem. Biophys. Res. Commun. 339: 1238-1245.
5. Misra, V., et al. 2005. Zhangfei is a potent and specific inhibitor of the host cell factor-binding transcription factor Luman. J. Biol. Chem. 280: 15257-15266.
6. Hogan, M.R., et al. 2006. Cooperative interaction of Zhangfei and ATF4 in transactivation of the cyclic AMP response element. FEBS Lett. 580: 58-62.

CHROMOSOMAL LOCATION

Genetic locus: Crebzf (mouse) mapping to 7 E1.

PRODUCT

Zhangfei 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 Zhangfei shRNA Plasmid (m): sc-61826-SH and Zhangfei shRNA (m) Lentiviral Particles: sc-61826-V as alternate gene silencing products.

For independent verification of Zhangfei (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-61826A, sc-61826B and sc-61826C.

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

Zhangfei siRNA (m) is recommended for the inhibition of Zhangfei 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 Zhangfei gene expression knockdown using RT-PCR Primer: Zhangfei (m)-PR: sc-61826-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Truong, X.T., et al. 2022. SMILE downregulation during melanogenesis induces MITF transcription in B16F10 cells. Int. J. Mol. Sci. 23: 15094.

RESEARCH USE

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