SANTA CRUZ BIOTECHNOLOGY, INC.

HEAB siRNA (h): sc-96740

BACKGROUND

HEAB, also known as CLP1 (CLP1, cleavage and polyadenylation factor I subunit, homolog *(S. cerevisiae))* or polyribonucleotide 5'-hydroxyl-kinase Clp1, is a 425 amino acid nuclear protein that belongs to the Clp1 family. Utilizing magnesium, manganese or nickel as cofactors, HEAB participates in the phosphorylation of the 5'-hydroxyl groups of double- and single- stranded RNA and DNA. HEAB is a member of the tRNA splicing endonuclease complex, in conjunction with TSEN2, TSEN15, TSEN34 and TSEN54, and is also a member of the pre-mRNA cleavage complex II. The gene encoding HEAB maps to human chromosome 11q12.1 and mouse chromosome 2 D; mutations to this gene may lead to a reduced pre-mRNA cleavage activity. HEAB exists as two isoforms due to alternative splicing events.

REFERENCES

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2. de Vries, H., Rüegsegger, U., Hübner, W., Friedlein, A., Langen, H. and Keller, W. 2000. Human pre-mRNA cleavage factor II(m) contains homologs of yeast proteins and bridges two other cleavage factors. EMBO J. 19: 5895-5904.
3. Paushkin, S.V., Patel, M., Furia, B.S., Peltz, S.W. and Trotta, C.R. 2004. Identification of a human endonuclease complex reveals a link between tRNA splicing and pre-mRNA 3' end formation. Cell 117: 311-321.
4. Weitzer, S. and Martinez, J. 2007. The human RNA kinase hClp1 is active on 3' transfer RNA exons and short interfering RNAs. Nature 447: 222-226.
5. Ramirez, A., Shuman, S. and Schwer, B. 2008. Human RNA 5'-kinase (hClp1) can function as a tRNA splicing enzyme *in vivo*. RNA 14: 1737-1745.

CHROMOSOMAL LOCATION

Genetic locus: CLP1 (human) mapping to 11q12.1.

PRODUCT

HEAB 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 HEAB shRNA Plasmid (h): sc-96740-SH and HEAB shRNA (h) Lentiviral Particles: sc-96740-V as alternate gene silencing products.

For independent verification of HEAB (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-96740A, sc-96740B and sc-96740C.

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

HEAB siRNA (h) is recommended for the inhibition of HEAB 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HEAB gene expression knockdown using RT-PCR Primer: HEAB (h)-PR: sc-96740-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.