SANTA CRUZ BIOTECHNOLOGY, INC.

HEL308 siRNA (h): sc-89305

BACKGROUND

HEL308, a DNA repair helicase, is a member of the helicase superfamily 2 and is conserved in eukaryotes and archaea. The human HEL308 gene encodes for a single stranded, 1,101 amino acid protein that acts as a DNA dependent ATPase. HEL308 is expressed in ovaries, heart, spleen, thymus, prostate, liver, kidney, and pancreas. It is highly expressed in the testis. During the early stages of DNA recombination, HEL308 plays a critical role in DNA crosslink repair following replication fork arrest. HEL308 is believed to aid in restarting DNA replication by displacing the lagging strand at the stalled replication forks. Human HEL308 shares homology with the HEL308 locus in Mus musculus and the mus308 locus in *Drosophila melanogaster*. In adult mice, HEL308 is only expressed in primary spermatocytes in seminiferous tubules of testis. The mus308 gene in *D. melanogaster* encodes a protein with structural characteristics of both DNA polymerases and helicases. The gene product may also be involved in the repair of lesions other than crosslinks.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: HELQ (human) mapping to 4q21.23.

RESEARCH USE

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

PRODUCT

HEL308 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 HEL308 shRNA Plasmid (h): sc-89305-SH and HEL308 shRNA (h) Lentiviral Particles: sc-89305-V as alternate gene silencing products.

For independent verification of HEL308 (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-89305A, sc-89305B and sc-89305C.

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

HEL308 siRNA (h) is recommended for the inhibition of HEL308 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

HEL308 (2406C1a): sc-81095 is recommended as a control antibody for monitoring of HEL308 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HEL308 gene expression knockdown using RT-PCR Primer: HEL308 (h)-PR: sc-89305-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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