SANTA CRUZ BIOTECHNOLOGY, INC.

PGBD3 siRNA (h): sc-90397

BACKGROUND

PiggyBac transposable element derived 3, also known as PGBD3, encodes a 593 amino acid transposase and is a member of the piggyBac transposable element derived (PGBD) gene family, which includes several genes that are derived from piggyBac transposons. Initially characterized in the cabbacge looper moth, Trichoplusia ni, the PGBD family is conserved in a wide variety of species, including protozoa and primates. More specifically, while PGBD3 and PGBD4 are primate-specific genes, the other three members of the PGBD family (namely PGBD1, PGBD2 and PGBD5) are conserved among a variety of vertebrates. PGBD3 appears to be novel, with no clear relationship to other transposases or other known protein families. However, the PGBD3 gene overlaps with the CSB gene on chromosome 10 and, with the CSB gene, plays a role in Cockayne syndrome, a rare disorder characterized by premature aging, microcephaly, photosensitivity and severe neurologic degeneration.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002.Johns Hopkins University, Baltimore, MD. MIM Number: 216400. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
3. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. Science 314: 268-274.
4. Newman, J.C., Bailey, A.D., Fan, H.Y., Pavelitz, T. and Weiner, A.M. 2008. An abundant evolutionarily conserved CSB-PiggyBac fusion protein expressed in Cockayne syndrome. PLoS Genet. 4: e1000031.

CHROMOSOMAL LOCATION

Genetic locus: PGBD3 (human) mapping to 10q11.23.

PRODUCT

PGBD3 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 PGBD3 shRNA Plasmid (h): sc-90397-SH and PGBD3 shRNA (h) Lentiviral Particles: sc-90397-V as alternate gene silencing products.

For independent verification of PGBD3 (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-90397A, sc-90397B and sc-90397C.

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

PGBD3 siRNA (h) is recommended for the inhibition of PGBD3 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 PGBD3 gene expression knockdown using RT-PCR Primer: PGBD3 (h)-PR: sc-90397-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.

PROTOCOLS

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