SANTA CRUZ BIOTECHNOLOGY, INC.

UBL4A siRNA (h): sc-90869

BACKGROUND

The distal portion of the long arm of the human X chromosome is one of the most gene-dense portions in the entire human genome and also contains many genes that have been linked to genetic diseases. The gene encoding the 157 amino acid protein, UBL4A (ubiquitin-like protein 4A), has a CpG island in the 5' region and is located on the X chromosome in close proximity to the gene encoding G6PD. UBL4A, also known as GDX, has been characterized as a ubiquitously expressed and highly conserved protein from humans to plants. The N-terminal region of UBL4A shares 43% sequence identity with ubiquitin; however, the C-terminal region has no homology to ubiquitin and it is, therefore, unlikely that UBL4A plays any role in targeting cellular proteins for degradation. Due to gene promoter features, such as being rich in G-C residues, lacking TATA boxes and the repetition of the Sp1 transcription factor binding site, it is likely that the gene encoding UBL4A functions as a housekeeping gene.

REFERENCES

1. Alcalay, M. and Toniolo, D. 1988. CpG islands of the X chromosome are gene associated. Nucleic Acids Res. 16: 9527-9543.
2. Toniolo, D., et al. 1988. A "housekeeping" gene on the X chromosome encodes a protein similar to ubiquitin. Proc. Natl. Acad. Sci. USA 85: 851-855.
3. Filippi, M., et al. 1990. Linkage and sequence conservation of the X-linked genes DXS253E (P3) and DXS254E (GDX) in mouse and man. Genomics 7: 453-457.
4. Faust, C.J., et al. 1992. Extension of the physical map in the region of the mouse X chromosome homologous to human Xq28 and identification of an exception to conserved linkage. Genomics 13: 1289-1295.
5. Maestrini, E., et al. 1992. An archipelago of CpG islands in Xq28: identification and fine mapping of 20 new CpG islands of the human X chromosome. Hum. Mol. Genet. 1: 275-280.
6. Faranda, S., et al. 1996. Characterization and fine localization of two new genes in Xq28 using the genomic sequence/EST database screening approach. Genomics 34: 323-327.

CHROMOSOMAL LOCATION

Genetic locus: UBL4A (human) mapping to Xq28.

PRODUCT

UBL4A 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 UBL4A shRNA Plasmid (h): sc-90869-SH and UBL4A shRNA (h) Lentiviral Particles: sc-90869-V as alternate gene silencing products.

For independent verification of UBL4A (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-90869A, sc-90869B and sc-90869C.

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

UBL4A siRNA (h) is recommended for the inhibition of UBL4A 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 UBL4A gene expression knockdown using RT-PCR Primer: UBL4A (h)-PR: sc-90869-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.