SANTA CRUZ BIOTECHNOLOGY, INC.

UBE2W siRNA (h): sc-77861

BACKGROUND

Ubiquitin is an abundant, highly conserved protein found in all eukaryotic cells either free or covalently attached to cellular proteins. Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). As an E2 class enzyme, UBE2W (ubiquitin-conjugating enzyme E2 W), also known as ubiquitin carrier protein W, is a 151 amino acid that catalyzes the conjugation of ubiquitin to proteins that are meant for lysosomal degradation. Functioning as a homodimer, UBE2W is widely expressed, with highest levels in testis. There are two isoforms of UBE2W that are produced as a result of alternative splicing events.

REFERENCES

1. Disteche, C.M., et al. 1992. Mapping and expression of the ubiquitin-activating enzyme E1 (Ube1) gene in the mouse. Mamm. Genome 3: 156-161.
2. Gehrke, S.G., et al. 2003. UbcH5A, a member of human E2 ubiquitin-conjugating enzymes, is closely related to SFT, a stimulator of iron transport, and is up-regulated in hereditary hemochromatosis. Blood 101: 3288-3293.
3. Gu, H. and Roizman, B. 2003. The degradation of promyelocytic leukemia and Sp100 proteins by herpes simplex virus 1 is mediated by the ubiquitin-conjugating enzyme UbcH5a. Proc. Natl. Acad. Sci. USA 100: 8963-8968.
4. Houben, K., et al. 2004. Solution structure of the ubiquitin-conjugating enzyme UbcH5B. J. Mol. Biol. 344: 513-526.
5. Saxena, K., et al. 2005. Backbone NMR assignment of the human E2 ubiquitin conjugating enzyme UbcH5α (F72K,F82S) double mutant. J. Biomol. NMR 32: 338.
6. Yin, G., et al. 2006. Cloning, characterization and subcellular localization of a gene encoding a human ubiquitin-conjugating enzyme (E2) homologous to the *Arabidopsis thaliana* UBC-16 gene product. Front. Biosci. 11: 1500-1507.

CHROMOSOMAL LOCATION

Genetic locus: UBE2W (human) mapping to 8q21.11.

PRODUCT

UBE2W 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 UBE2W shRNA Plasmid (h): sc-77861-SH and UBE2W shRNA (h) Lentiviral Particles: sc-77861-V as alternate gene silencing products.

For independent verification of UBE2W (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-77861A, sc-77861B and sc-77861C.

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

UBE2W siRNA (h) is recommended for the inhibition of UBE2W 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 UBE2W gene expression knockdown using RT-PCR Primer: UBE2W (h)-PR: sc-77861-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.