



UBE3C siRNA (h): sc-89538

BACKGROUND

E3 ubiquitin ligases are a large family of proteins that are engaged in the regulation of the turnover and activity of many target proteins and are classified into three major structurally distinct types: N-end rule E3s, E3s containing the HECT (homology to E6AP C-Terminus) domain and E3s with the RING finger. UBE3C (ubiquitin protein ligase E3C), is a 1,083 amino acid nuclear protein that contains one HECT domain and one IQ domain. Existing as three isoforms due to alternative splicing events, UBE3C is highly expressed in skeletal muscle and expressed at much lower levels in kidney and pancreas. UBE3C is a E3 ubiquitin-protein ligase that accepts ubiquitin from UBE2D1 (ubiquitin-conjugating enzyme E2 D1) in the form of a thioester and then directly transfers the ubiquitin to targeted substrates. UBE3C can target itself for ubiquitination *in vitro* and may promote its own degradation *in vivo*.

REFERENCES

1. You, J., et al. 2001. A HECT domain E3 enzyme assembles novel poly-ubiquitin chains. *J. Biol. Chem.* 276: 19871-19878.
2. Sun, Y. 2003. Targeting E3 ubiquitin ligases for cancer therapy. *Cancer Biol. Ther.* 2: 623-629.
3. You, J., et al. 2003. Proteolytic targeting of transcriptional regulator TIP120B by a HECT domain E3 ligase. *J. Biol. Chem.* 278: 23369-23375.
4. Ardley, H.C., et al. 2005. E3 ubiquitin ligases. *Essays Biochem.* 41: 15-30.
5. Sun, Y. 2005. Overview of approaches for screening for ubiquitin ligase inhibitors. *Meth. Enzymol.* 399: 654-663.
6. Sun, Y. 2006. E3 ubiquitin ligases as cancer targets and biomarkers. *Neoplasia* 8: 645-654.
7. Huang, J., et al. 2008. Approaches to discovering drugs that regulate E3 ubiquitin ligases. *Ernst Schering Found. Symp. Proc.* 1: 153-170.

CHROMOSOMAL LOCATION

Genetic locus: UBE3C (human) mapping to 7q36.3.

PRODUCT

UBE3C 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see UBE3C shRNA Plasmid (h): sc-89538-SH and UBE3C shRNA (h) Lentiviral Particles: sc-89538-V as alternate gene silencing products.

For independent verification of UBE3C (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-89538A, sc-89538B and sc-89538C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

UBE3C siRNA (h) is recommended for the inhibition of UBE3C 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 μ M in 66 μ l. 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 UBE3C gene expression knockdown using RT-PCR Primer: UBE3C (h)-PR: sc-89538-PR (20 μ l, 572 bp). 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.