SANTA CRUZ BIOTECHNOLOGY, INC.

USP36 siRNA (h): sc-76843

BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. Through the use of a wide range of enzymes that can add or remove ubiquitin, the Ub pathway controls many intracellular processes such as signal transduction, transcriptional activation and cell cycle progression. USP36 (ubiquitin specific peptidase 36), also known as DUB1, is a 1,121 amino acid protein that localizes to the nucleus and belongs to the peptidase C19 family. Expressed in a variety of tissues, USP36 functions to catalyze the conversion of a ubiquitin C-terminal thio ester to a free ubiquitin and a free thiol, an event that plays an important role in proteasome-mediated protein disposal. Two isoforms of USP36 exist due to alternative splicing events.

REFERENCES

1. Baek, K.H. 2002. Lymphocyte-specific murine deubiquitinating enzymes induced by cytokines. Am. J. Hematol. 71: 340-345.
2. Baek, K.H. 2003. Conjugation and deconjugation of ubiquitin regulating the destiny of proteins. Exp. Mol. Med. 35: 1-7.
3. Quesada, V., et al. 2004. Cloning and enzymatic analysis of 22 novel human ubiquitin-specific proteases. Biochem. Biophys. Res. Commun. 314: 54-62.
4. Kim, M.S., et al. 2004. A novel cysteine protease HeLa DUB-1 responsible for cleaving the ubiquitin in human ovarian cancer cells. Int. J. Oncol. 25: 373-379.
5. Kim, M.S., et al. 2005. Deubiquitinating enzyme USP36 contains the PEST motif and is polyubiquitinated. Biochem. Biophys. Res. Commun. 330: 797-804.
6. Millard, S.M. and Wood, S.A. 2006. Riding the DUBway: regulation of protein trafficking by deubiquitylating enzymes. J. Cell Biol. 173: 463-468.
7. Nousiainen, M., et al. 2006. Phosphoproteome analysis of the human mitotic spindle. Proc. Natl. Acad. Sci. USA 103: 5391-5396.

CHROMOSOMAL LOCATION

Genetic locus: USP36 (human) mapping to 17q25.3.

PRODUCT

USP36 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 USP36 shRNA Plasmid (h): sc-76843-SH and USP36 shRNA (h) Lentiviral Particles: sc-76843-V as alternate gene silencing products.

For independent verification of USP36 (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-76843A, sc-76843B and sc-76843C.

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 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

USP36 siRNA (h) is recommended for the inhibition of USP36 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 USP36 gene expression knockdown using RT-PCR Primer: USP36 (h)-PR: sc-76843-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.