



USP19 siRNA (h): sc-78424

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. Ubiquitin-specific-processing protease 19 (USP19), also known as ubiquitin carboxyl-terminal hydrolase 19, ubiquitin thioesterase 19 and deubiquitinating enzyme 19, is a 1,318 amino acid member of the peptidase C19 family of proteins. USP19 is thought to be involved in the ubiquitin-dependent proteolytic pathway in conjunction with the 26S proteasome. Four known isoforms of USP19 exist as a result of alternative splicing events.

REFERENCES

1. Li, Z., et al. 2002. Identification of a deubiquitinating enzyme subfamily as substrates of the von Hippel-Lindau tumor suppressor. *Biochem. Biophys. Res. Commun.* 294: 700-709.
2. Li, Z., et al. 2002. Ubiquitination of a novel deubiquitinating enzyme requires direct binding to von Hippel-Lindau tumor suppressor protein. *J. Biol. Chem.* 277: 4656-4662.
3. Curcio-Morelli, C., et al. 2003. Deubiquitination of type 2 iodothyronine deiodinase by von Hippel-Lindau protein-interacting deubiquitinating enzymes regulates thyroid hormone activation. *J. Clin. Invest.* 112: 189-196.
4. Puente, X.S., et al. 2003. Human and mouse proteases: a comparative genomic approach. *Nat. Rev. Genet.* 4: 544-558.
5. Combaret, L., et al. 2005. USP19 is a ubiquitin-specific protease regulated in rat skeletal muscle during catabolic states. *Am. J. Physiol. Endocrinol. Metab.* 288: E693-E700.
6. Li, Z., et al. 2005. VHL protein-interacting deubiquitinating enzyme 2 deubiquitinates and stabilizes HIF-1 α . *EMBO Rep.* 6: 373-378.

CHROMOSOMAL LOCATION

Genetic locus: USP19 (human) mapping to 3p21.31.

PRODUCT

USP19 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 USP19 shRNA Plasmid (h): sc-78424-SH and USP19 shRNA (h) Lentiviral Particles: sc-78424-V as alternate gene silencing products.

For independent verification of USP19 (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-78424A, sc-78424B and sc-78424C.

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

USP19 siRNA (h) is recommended for the inhibition of USP19 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 USP19 gene expression knockdown using RT-PCR Primer: USP19 (h)-PR: sc-78424-PR (20 μ l). 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.