



USP24 siRNA (h): sc-76827

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. USP24 (ubiquitin carboxyl-terminal hydrolase 24) is a 2,620 amino acid protein that contains one UBA domain and is expressed at moderate levels in lung, heart, brain, kidney and liver. Involved in the ubiquitin pathway of protein degradation, USP24 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. The gene encoding USP24 maps to human chromosome 1 and is thought to play a role in the pathogenesis of Parkinson's disease.

REFERENCES

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2. Puente, X.S., et al. 2003. Human and mouse proteases: a comparative genomic approach. Nat. Rev. Genet. 4: 544-558.
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. Oliveira, S.A., et al. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson disease. Am. J. Hum. Genet. 77: 252-264.
5. Li, Y., et al. 2006. Genetic evidence for ubiquitin-specific proteases USP24 and USP40 as candidate genes for late-onset Parkinson disease. Hum. Mutat. 27: 1017-1023.
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CHROMOSOMAL LOCATION

Genetic locus: USP24 (human) mapping to 1p32.3.

PRODUCT

USP24 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 USP24 shRNA Plasmid (h): sc-76827-SH and USP24 shRNA (h) Lentiviral Particles: sc-76827-V as alternate gene silencing products.

For independent verification of USP24 (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-76827A, sc-76827B and sc-76827C.

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

USP24 siRNA (h) is recommended for the inhibition of USP24 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 USP24 gene expression knockdown using RT-PCR Primer: USP24 (h)-PR: sc-76827-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.