

USP27X siRNA (h): sc-91206

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. USP27X (ubiquitin specific peptidase 27, X-linked), also known as USP27 or USP22L, is a 438 amino acid protein that belongs to the peptidase C19 family. The gene encoding USP27X maps to human chromosome Xp11.23 and mouse chromosome X A1.1. The X and Y chromosomes are the human sex chromosomes. Chromosome X consists of about 153 million base pairs and nearly 1,000 genes. The combination of an X and Y chromosome lead to normal male development, while two copies of X lead to normal female development. There are a number of conditions related to an unusual number and combinations of sex chromosomes being inherited, such as abnormal X and Turners syndrome.

REFERENCES

1. Wilkinson, K.D. 1997. Regulation of ubiquitin-dependent processes by deubiquitinating enzymes. *FASEB J.* 11: 1245-1256.
2. Southan, C. 2001. A genomic perspective on human proteases. *FEBS Lett.* 498: 214-218.
3. Bernardino-Sgherri, J., Flagiello, D. and Dutrillaux, B. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. *Cytogenet. Genome Res.* 99: 85-91.
4. Puente, X.S., Sánchez, L.M., Overall, C.M. and López-Otín, C. 2003. Human and mouse proteases: a comparative genomic approach. *Nat. Rev. Genet.* 4: 544-558.
5. Maggio, M.C., Liotta, A., De Grazia, E., Cimador, M., Di Pace, R. and Corsello, G. 2007. Polycystic ovary and gonadoblastoma in Turner's syndrome. *Minerva Pediatr.* 59: 397-401.

CHROMOSOMAL LOCATION

Genetic locus: USP27X (human) mapping to Xp11.23.

PRODUCT

USP27X 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 USP27X shRNA Plasmid (h): sc-91206-SH and USP27X shRNA (h) Lentiviral Particles: sc-91206-V as alternate gene silencing products.

For independent verification of USP27X (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-91206A, sc-91206B and sc-91206C.

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

USP27X siRNA (h) is recommended for the inhibition of USP27X 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 USP27X gene expression knockdown using RT-PCR Primer: USP27X (h)-PR: sc-91206-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.