



USP9Y siRNA (h): sc-106834

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. USP9Y (ubiquitin specific peptidase 9, Y chromosome), whose alternative names include Dffry or Faf12, is a 2,556 amino acid cytoplasmic protein that is highly expressed in testis. USP9Y is associated with a functional promoter that shares several features characteristic of other testis-specific genes and may function as a ubiquitin-specific protease. Human USP9Y is widely expressed in embryonic and adult tissues and the USP9Y gene is found on both X and Y chromosomes. It is suggested that USP9Y is Y-linked and testis-specific in mice.

REFERENCES

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2. Mazeyrat, S., et al. 1998. The mouse Y chromosome interval necessary for spermatogonial proliferation is gene dense with syntenic homology to the human AZFa region. *Hum. Mol. Genet.* 7: 1713-1724.
3. Ko, M.S., et al. 1998. Genome-wide mapping of unselected transcripts from extraembryonic tissue of 7.5-day mouse embryos reveals enrichment in the t-complex and under-representation on the X chromosome. *Hum. Mol. Genet.* 7: 1967-1978.
4. Xu, J., Burgoyne, P.S. and Arnold, A.P. 2002. Sex differences in sex chromosome gene expression in mouse brain. *Hum. Mol. Genet.* 11: 1409-1419.
5. Hall, N.M., Brown, G.M., Furlong, R.A., Sargent, C.A., Mitchell, M., Rocha, D. and Affara, N.A. 2003. USP9Y (ubiquitin-specific protease 9 gene on the Y) is associated with a functional promoter and encodes an intact open reading frame homologous to Usp9x that is under selective constraint. *Mamm. Genome* 14: 437-447.
6. Sandstedt, S.A. and Tucker, P.K. 2004. Evolutionary strata on the mouse X chromosome correspond to strata on the human X chromosome. *Genome Res.* 14: 267-272.

CHROMOSOMAL LOCATION

Genetic locus: USP9Y (human) mapping to Yq11.21.

PRODUCT

USP9Y siRNA (h) is a target-specific 19-25 nt siRNA 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 USP9Y shRNA Plasmid (h): sc-106834-SH and USP9Y shRNA (h) Lentiviral Particles: sc-106834-V as alternate gene silencing 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

USP9Y siRNA (h) is recommended for the inhibition of USP9Y 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.

GENE EXPRESSION MONITORING

USP9X/Y (E-12): sc-365353 is recommended as a control antibody for monitoring of USP9Y gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor USP9Y gene expression knockdown using RT-PCR Primer: USP9Y (h)-PR: sc-106834-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.