

# SMPX siRNA (h): sc-90898

## BACKGROUND

SMPX (small muscle protein, X-linked), also known as SRMX, is an 86 amino acid protein that is preferentially expressed at high levels in heart and skeletal muscle where it is thought to play a role in muscle structure during growth, repair and adaptation. Defects in the gene encoding SMPX, which maps to human chromosome X, may play a role in the development of X-linked cardiac or muscle disorders. Chromosome X, one of the 2 human sex chromosomes, contains nearly 153 million base pairs and encodes over 1,000 genes. In conjunction with chromosome Y, chromosome X is responsible for sex determination, as an X and a Y chromosome lead to normal male development, while two copies of an X chromosome lead to normal female development. There are a number of conditions related to an abnormal number and combination of sex chromosomes, some of which include Turner's syndrome, color blindness, hemophilia and Duchenne muscular dystrophy.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: SMPX (human) mapping to Xp22.12.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

SMPX 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SMPX shRNA Plasmid (h): sc-90898-SH and SMPX shRNA (h) Lentiviral Particles: sc-90898-V as alternate gene silencing products.

For independent verification of SMPX (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-90898A, sc-90898B and sc-90898C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

SMPX siRNA (h) is recommended for the inhibition of SMPX 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  $\mu$ M in 66  $\mu$ 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 SMPX gene expression knockdown using RT-PCR Primer: SMPX (h)-PR: sc-90898-PR (20  $\mu$ 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.