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# SYF2 siRNA (m): sc-153971

## BACKGROUND

SYF2 (SYF2 homolog, RNA splicing factor), also known as CCNDBP1-interactor or p29, is a 243 amino acid protein belonging to the SYF2 family. Localizing to nucleus, SYF2 is highly expressed in heart, skeletal muscle and kidney. SYF2 is likely involved in pre-mRNA splicing and cell cycle progression, and may function as a DNA replication checkpoint regulator. The gene encoding SYF2 maps to human chromosome 1p36.11. As the largest human chromosome, chromosome 1 spans about 260 million base pairs and makes up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes Lamin A. Aberrations in chromosome 1 are found in a variety of cancers including head and neck cancer, malignant melanoma and multiple myeloma.

## REFERENCES

1. Chang, M.S., et al. 2000. p29, a novel GCIP-interacting protein, localizes in the nucleus. *Biochem. Biophys. Res. Commun.* 279: 732-737.
2. Ben-Yehuda, S., et al. 2000. Genetic and physical interactions between factors involved in both cell cycle progression and pre-mRNA splicing in *Saccharomyces cerevisiae*. *Genetics* 156: 1503-1517.
3. Dahan, O. and Kupiec, M. 2002. Mutations in genes of *Saccharomyces cerevisiae* encoding pre-mRNA splicing factors cause cell cycle arrest through activation of the spindle checkpoint. *Nucleic Acids Res.* 30: 4361-4370.
4. Vincent, K., et al. 2003. Genetic interactions with CLF1 identify additional pre-mRNA splicing factors and a link between activators of yeast vesicular transport and splicing. *Genetics* 164: 895-907.
5. Chu, P.C., et al. 2006. Silencing of p29 affects DNA damage responses with UV irradiation. *Cancer Res.* 66: 8484-8491.
6. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.
7. McClintock, D., et al. 2006. Hutchinson-Gilford progeria mutant Lamin A primarily targets human vascular cells as detected by an anti-Lamin A G608G antibody. *Proc. Natl. Acad. Sci. USA* 103: 2154-2159.

## CHROMOSOMAL LOCATION

Genetic locus: *Syf2* (mouse) mapping to 4 D3.

## PRODUCT

SYF2 siRNA (m) 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 SYF2 shRNA Plasmid (m): sc-153971-SH and SYF2 shRNA (m) Lentiviral Particles: sc-153971-V as alternate gene silencing products.

For independent verification of SYF2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153971A, sc-153971B and sc-153971C.

## 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

SYF2 siRNA (m) is recommended for the inhibition of SYF2 expression in mouse 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.

## GENE EXPRESSION MONITORING

SYF2 (B-11): sc-393109 is recommended as a control antibody for monitoring of SYF2 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SYF2 gene expression knockdown using RT-PCR Primer: SYF2 (m)-PR: sc-153971-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.

## PROTOCOLS

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