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# PRPF38A siRNA (m): sc-152494

## BACKGROUND

PRPF38A (pre-mRNA-splicing factor 38A) is a 312 amino acid nuclear protein that is likely required for pre-mRNA splicing. There are two isoforms of PRPF38A that are produced as a result of alternative splicing events. The gene encoding PRPF38A maps to human chromosome 1p32.3, the largest human chromosome which 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. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. The mechanism of rapidly enhanced aging is unclear and is a topic of continuing exploration. The MUTYH gene is located on chromosome 1 and is partially responsible for familial adenomatous polyposis. Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are also associated with chromosome 1.

## REFERENCES

1. Schutte, B.C., et al. 2001. Report and abstracts of the sixth international workshop on human chromosome 1 mapping 2000. Iowa City, Iowa, USA 30 September-3 October 2000. Cytogenet. Cell Genet. 92: 23-41.
2. Murphy, W.J., et al. 2003. The origin of human chromosome 1 and its homologs in placental mammals. Genome Res. 13: 1880-1888.
3. Xi, X.H., et al. 2005. Splicing site mutation of D19S418 in PRPF-31 gene and its phenotypic characters with autosomal dominant retinitis pigmentosa. Zhonghua Yan Ke Za Zhi 41: 1020-1026.
4. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.
5. Scott, W.G., et al. 2009. Structure and function of regulatory RNA elements: ribozymes that regulate gene expression. Biochim. Biophys. Acta 1789: 634-641.
6. Hsu, S.N. and Hertel, K.J. 2009. Spliceosomes walk the line: splicing errors and their impact on cellular function. RNA Biol. 6: 526-530.
7. Karijovich, J., et al. 2010. RNA modifications: a mechanism that modulates gene expression. Methods Mol. Biol. 629: 1-19.

## CHROMOSOMAL LOCATION

Genetic locus: Prpf38a (mouse) mapping to 4 C7.

## PRODUCT

PRPF38A 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 PRPF38A shRNA Plasmid (m): sc-152494-SH and PRPF38A shRNA (m) Lentiviral Particles: sc-152494-V as alternate gene silencing products.

For independent verification of PRPF38A (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-152494A, sc-152494B and sc-152494C.

## 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

PRPF38A siRNA (m) is recommended for the inhibition of PRPF38A 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

PRPF38A (F-7): sc-373907 is recommended as a control antibody for monitoring of PRPF38A 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™ Molecular Weight Standards: sc-2035, UltraCruz® 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PRPF38A gene expression knockdown using RT-PCR Primer: PRPF38A (m)-PR: sc-152494-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.