

## CPSF4L siRNA (h): sc-94196

### BACKGROUND

Processing of the 3' end of mRNA depends on several protein factors. One component is the cleavage and polyadenylation specificity factor (CPSF), which is required for the cleavage of the mRNA precursor as well as polyadenylation. CPSF recognizes the AAUAAA signal in the pre-mRNA and interacts with other proteins to facilitate both RNA cleavage and poly(A) synthesis. CPSF4L (cleavage and polyadenylation specific factor 4-like) is a 179 amino acid protein that belongs to the CPSF4/YTH1 family and contains five C3H1-type zinc fingers. The gene encoding CPSF4L maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome.

### REFERENCES

1. Takagaki, Y., Ryner, L.C. and Manley, J.L. 1988. Separation and characterization of a poly(A) polymerase and a cleavage/specificity factor required for pre-mRNA polyadenylation. *Cell* 52: 731-742.
2. Murthy, K.G. and Manley, J.L. 1995. The 160-kD subunit of human cleavage-polyadenylation specificity factor coordinates pre-mRNA 3'-end formation. *Genes Dev.* 9: 2672-2683.
3. Evans, S.C. and Lozano, G. 1997. The Li-Fraumeni syndrome: an inherited susceptibility to cancer. *Mol. Med. Today* 3: 390-395.
4. Soussi, T., Dehouche, K. and Beroud, C. 2000. p53 website and analysis of p53 gene mutations in human cancer: forging a link between epidemiology and carcinogenesis. *Hum. Mutat.* 15: 105-113.
5. Piura, B., Rabinovich, A. and Yanai-Inbar, I. 2001. Three primary malignancies related to BRCA mutation successively occurring in a BRCA1 185delAG mutation carrier. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 97: 241-244.
6. Dominski, Z. and Marzluff, W.F. 2007. Formation of the 3' end of histone mRNA: getting closer to the end. *Gene* 396: 373-390.
7. Laishram, R.S. and Anderson, R.A. 2010. The poly A polymerase Star-PAP controls 3'-end cleavage by promoting CPSF interaction and specificity toward the pre-mRNA. *EMBO J.* 29: 4132-4145.

### CHROMOSOMAL LOCATION

Genetic locus: CPSF4L (human) mapping to 17q25.1.

### PRODUCT

CPSF4L 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CPSF4L shRNA Plasmid (h): sc-94196-SH and CPSF4L shRNA (h) Lentiviral Particles: sc-94196-V as alternate gene silencing products.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

CPSF4L siRNA (h) is recommended for the inhibition of CPSF4L 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.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.