

## ZFP100 siRNA (h): sc-97520

### BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. ZFP100 (zinc finger protein 100 homolog), also known as ZNF473 (zinc finger protein 473), is a 871 amino acid nuclear protein that contained 20 C<sub>2</sub>H<sub>2</sub>-type zinc fingers and one KRAB domain. ZFP100 is involved in histone 3' end pre-mRNA processing by associating with U7 snRNP and interacting with SLBP/pre-mRNA complex. This role makes ZFP100 required for cell cycle progression from G1 to S phases.

### REFERENCES

1. Dominski, Z., Erkmann, J.A., Yang, X., Sánchez, R. and Marzluff, W.F. 2002. A novel zinc finger protein is associated with U7 snRNP and interacts with the stem-loop binding protein in the histone pre-mRNP to stimulate 3'-end processing. *Genes Dev.* 16: 58-71.
2. Pillai, R.S., Grimmier, M., Meister, G., Will, C.L., Lüthmann, R., Fischer, U. and Schümperli, D. 2003. Unique Sm core structure of U7 snRNPs: assembly by a specialized SMN complex and the role of a new component, Lsm11, in histone RNA processing. *Genes Dev.* 17: 2321-2333.
3. Azzouz, T.N., Gruber, A. and Schümperli, D. 2005. U7 snRNP-specific Lsm11 protein: dual binding contacts with the 100 kDa zinc finger processing factor (ZFP100) and a ZFP100-independent function in histone RNA 3' end processing. *Nucleic Acids Res.* 33: 2106-2117.
4. Wagner, E.J. and Marzluff, W.F. 2006. ZFP100, a component of the active U7 snRNP limiting for histone pre-mRNA processing, is required for entry into S phase. *Mol. Cell. Biol.* 26: 6702-6712.
5. Wagner, E.J., Ospina, J.K., Hu, Y., Dundr, M., Matera, A.G. and Marzluff, W.F. 2006. Conserved zinc fingers mediate multiple functions of ZFP100, a U7snRNP associated protein. *RNA* 12: 1206-1218.

### CHROMOSOMAL LOCATION

Genetic locus: ZNF473 (human) mapping to 19q13.33.

### PRODUCT

ZFP100 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 ZFP100 shRNA Plasmid (h): sc-97520-SH and ZFP100 shRNA (h) Lentiviral Particles: sc-97520-V as alternate gene silencing products.

For independent verification of ZFP100 (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-97520A, sc-97520B and sc-97520C.

### 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

ZFP100 siRNA (h) is recommended for the inhibition of ZFP100 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 ZFP100 gene expression knockdown using RT-PCR Primer: ZFP100 (h)-PR: sc-97520-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.