

# ZNF167 siRNA (h): sc-78544

## 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. A member of the Krüppel C<sub>2</sub>H<sub>2</sub>-type zinc-finger protein family, ZNF167 (zinc finger protein 167), also known as zinc finger protein with KRAB and SCAN domains 7, is a 754 amino acid protein containing 13 C<sub>2</sub>H<sub>2</sub>-type zinc fingers, one KRAB domain and one SCAN box domain. Localized to the nucleus, ZNF167 exhibits transcriptional regulation activity. There are two isoforms of ZNF167 that are produced as a result of alternative splicing events.

## REFERENCES

1. Bellefroid, E.J., et al. 1991. The evolutionarily conserved Krüppel-associated box domain defines a subfamily of eukaryotic multifingered proteins. *Proc. Natl. Acad. Sci. USA* 88: 3608-3612.
2. Constantinou-Deltas, C.D., et al. 1992. The identification and characterization of KRAB-domain-containing zinc finger proteins. *Genomics* 12: 581-589.
3. Pengue, G., et al. 1994. Repression of transcriptional activity at a distance by the evolutionarily conserved KRAB domain present in a subfamily of zinc finger proteins. *Nucleic Acids Res.* 22: 2908-2914.
4. Witzgall, R., et al. 1994. The Krüppel-associated box-A (KRAB-A) domain of zinc finger proteins mediates transcriptional repression. *Proc. Natl. Acad. Sci. USA* 91: 4514-4518.
5. Vissing, H., et al. 1995. Repression of transcriptional activity by heterologous KRAB domains present in zinc finger proteins. *FEBS Lett.* 369: 153-157.
6. Yano, K., et al. 2000. Identification and characterization of human ZNF274 cDNA, which encodes a novel Krüppel-type zinc-finger protein having nucleolar targeting ability. *Genomics* 65: 75-80.
7. Edelstein, L.C., et al. 2005. The SCAN domain family of zinc finger transcription factors. *Gene* 359: 1-17.

## CHROMOSOMAL LOCATION

Genetic locus: ZNF167 (human) mapping to 3p21.31.

## PRODUCT

ZNF167 siRNA (h) is a pool of 2 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 ZNF167 shRNA Plasmid (h): sc-78544-SH and ZNF167 shRNA (h) Lentiviral Particles: sc-78544-V as alternate gene silencing products.

For independent verification of ZNF167 (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-78544A and sc-78544B.

## RESEARCH USE

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

## 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

ZNF167 siRNA (h) is recommended for the inhibition of ZNF167 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.

## GENE EXPRESSION MONITORING

ZNF167 (G-4): sc-376321 is recommended as a control antibody for monitoring of ZNF167 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 ZNF167 gene expression knockdown using RT-PCR Primer: ZNF167 (h)-PR: sc-78544-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

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