

ZNF420 siRNA (h): sc-97355

BACKGROUND

ZNF420 (zinc finger protein 420) is a 688 amino acid nuclear protein that becomes phosphorylated upon DNA damage and may be involved in transcriptional regulation. ZNF420 contains 19 C₂H₂-type zinc fingers and one KRAB domain. The gene that encodes ZNF420 is made up of approximately 51,876 bases and maps to human chromosome 19q13.12. Consisting of around 63 million bases with more than 1,400 genes, chromosome 19 makes up over 2% of the human genome. It is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG families, and Fc α receptors. Key genes for eye color and hair color also map to chromosome 19. Peutz-Jeghers syndrome, spinocerebellar ataxia type 6, the stroke disorder CADASIL, hypercholesterolemia and Insulin-dependent diabetes have been linked to chromosome 19.

REFERENCES

1. Olsen, A., Teglund, S., Nelson, D., Gordon, L., Copeland, A., Georgescu, A., Carrano, A. and Hammarström, S. 1994. Gene organization of the pregnancy-specific glycoprotein region on human chromosome 19: assembly and analysis of a 700-kb cosmid contig spanning the region. *Genomics* 23: 659-668.
2. Teglund, S., Olsen, A., Khan, W.N., Frängsmyr, L. and Hammarström, S. 1994. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. *Genomics* 23: 669-684.
3. Wang, L., Lin, S.H., Wu, W.G., Kemp, B.L., Walsh, G.L., Hong, W.K. and Mao, L. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. *Clin. Cancer Res.* 6: 2988-2993.
4. Trowsdale, J., Barten, R., Haude, A., Stewart, C.A., Beck, S. and Wilson, M.J. 2001. The genomic context of natural killer receptor extended gene families. *Immunol. Rev.* 181: 20-38.
5. Le Meur, N., Martin, C., Saugier-Verber, P., Joly, G., Lemoine, F., Moiriot, H., Rossi, A., Bachy, B., Cabot, A., Joly, P. and Frébourg, T. 2004. Complete germline deletion of the STK11 gene in a family with Peutz-Jeghers syndrome. *Eur. J. Hum. Genet.* 12: 415-418.
6. Leeb, T. and Müller, M. 2004. Comparative human-mouse-rat sequence analysis of the ICAM gene cluster on HSA 19p13.2 and a 185-kb porcine region from SSC 2q. *Gene* 343: 239-244.
7. Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.

CHROMOSOMAL LOCATION

Genetic locus: ZNF420 (human) mapping to 19q13.12.

RESEARCH USE

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

PRODUCT

ZNF420 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZNF420 shRNA Plasmid (h): sc-97355-SH and ZNF420 shRNA (h) Lentiviral Particles: sc-97355-V as alternate gene silencing products.

For independent verification of ZNF420 (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-97355A, sc-97355B and sc-97355C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ZNF420 siRNA (h) is recommended for the inhibition of ZNF420 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 μ M in 66 μ 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 ZNF420 gene expression knockdown using RT-PCR Primer: ZNF420 (h)-PR: sc-97355-PR (20 μ 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 for detailed protocols and support products.