

ZNF598 siRNA (h): sc-93229

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. ZNF598 (zinc finger protein 598) is a 904 amino acid protein that contains a C₂H₂-type zinc finger and a RING-type zinc finger. The gene encoding ZNF598 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, a gastrointestinal inflammatory condition.

REFERENCES

- Baraitser, M. and Preece, M.A. 1983. The Rubinstein-Taybi syndrome: occurrence in two sets of identical twins. *Clin. Genet.* 23: 318-320.
- Breuning, M.H., Dauwerse, H.G., Fugazza, G., Saris, J.J., Spruit, L., Wijnen, H., Tommerup, N., van der Hagen, C.B., Imaizumi, K., Kuroki, Y., van den Boogaard, M.J., de Pater, J.M., Mariman, E.C., et al. 1993. Rubinstein-Taybi syndrome caused by submicroscopic deletions within 16p13.3. *Am. J. Hum. Genet.* 52: 249-254.
- Bomont, P., Cavalier, L., Blondeau, F., Ben Hamida, C., Belal, S., Tazir, M., Demir, E., Topaloglu, H., Korinthenberg, R., Tüysüz, B., Landrieu, P., Hentati, F. and Koenig, M. 2000. The gene encoding gigaxonin, a new member of the cytoskeletal BTB/kelch repeat family, is mutated in giant axonal neuropathy. *Nat. Genet.* 26: 370-374.
- Kuhlenbäumer, G., Young, P., Oberwittler, C., Hünermund, G., Schirmacher, A., Domschke, K., Ringelstein, B. and Stögbauer, F. 2002. Giant axonal neuropathy (GAN): case report and two novel mutations in the gigaxonin gene. *Neurology* 58: 1273-1276.
- Cho, J.H. 2004. Advances in the genetics of inflammatory bowel disease. *Curr. Gastroenterol. Rep.* 6: 467-473.
- Mathew, C.G. and Lewis, C.M. 2004. Genetics of inflammatory bowel disease: progress and prospects. *Hum. Mol. Genet.* 1: R161-R168.

CHROMOSOMAL LOCATION

Genetic locus: ZNF598 (human) mapping to 16p13.3.

PRODUCT

ZNF598 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 ZNF598 shRNA Plasmid (h): sc-93229-SH and ZNF598 shRNA (h) Lentiviral Particles: sc-93229-V as alternate gene silencing products.

For independent verification of ZNF598 (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-93229A, sc-93229B and sc-93229C.

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

ZNF598 siRNA (h) is recommended for the inhibition of ZNF598 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 ZNF598 gene expression knockdown using RT-PCR Primer: ZNF598 (h)-PR: sc-93229-PR (20 μ 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 for detailed protocols and support products.