

# TAF A2 siRNA (h): sc-95941

## BACKGROUND

TAF A2, also known as FAM19A2 (family with sequence similarity 19 chemokine (C-C motif)-like member A2), is a 131 amino acid cytoplasmic protein that belongs to the TAF A family. The TAF A family is composed of five highly homologous genes that encode small secreted proteins. These proteins contain conserved cysteine residues at fixed positions, and are distantly related to MIP-1 $\alpha$ , a member of the CC-chemokine family. Predominantly expressed in specific regions of the brain, TAF A proteins are thought to function as brain-specific chemokines or neurokines that act as regulators of immune and nervous cells. The gene that encodes TAF A2 contains 484,512 bases and maps to human chromosome 12q14.1. Encoding over 1,100 genes, chromosome 12 comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

## REFERENCES

1. Allen, T.L., Brothman, A.R., Carey, J.C. and Chance, P.F. 1996. Cytogenetic and molecular analysis in trisomy 12p. *Am. J. Med. Genet.* 63: 250-256.
2. Delgado Carrasco, J., Casanova Morcillo, A., Zabalza Alvillos, M. and Ayala Garces, A. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features. Case report. *An. Esp. Pediatr.* 55: 553-557.
3. Yokoyama, T., Nakatani, S. and Murakami, A. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. *Am. J. Ophthalmol.* 136: 1186-1188.
4. Tom Tang, Y., Emtage, P., Funk, W.D., Hu, T., Arterburn, M., Park, E.E. and Rupp, F. 2004. TAF A: a novel secreted family with conserved cysteine residues and restricted expression in the brain. *Genomics* 83: 727-734.
5. Forzano, F., Lituanica, M., Viassolo, A., Superti-Furga, V., Wildhardt, G., Zabel, B. and Faravelli, F. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. *Am. J. Med. Genet. A* 143A: 2815-2820.
6. Wainwright, H. and Beighton, P. 2008. Visceral manifestations of hypochondrogenesis. *Virchows Arch.* 453: 203-207.
7. Lo, F.S., Luo, J.D., Lee, Y.J., Shu, S.G., Kuo, M.T. and Chiou, C.C. 2009. High resolution melting analysis for mutation detection for PTPN11 gene: applications of this method for diagnosis of Noonan syndrome. *Clin. Chim. Acta* 409: 75-77.
8. Benussi, D.G., Costa, P., Zollino, M., Murolo, M., Petix, V., Carrozzi, M. and Pecile, V. 2009. Trisomy 12p and monosomy 4p: phenotype-genotype correlation. *Genet. Test. Mol. Biomarkers* 13: 199-204.

## CHROMOSOMAL LOCATION

Genetic locus: TAF A2 (human) mapping to 12q14.1.

## PROTOCOLS

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

## PRODUCT

TAF A2 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 TAF A2 shRNA Plasmid (h): sc-95941-SH and TAF A2 shRNA (h) Lentiviral Particles: sc-95941-V as alternate gene silencing products.

For independent verification of TAF A2 (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-95941A, sc-95941B and sc-95941C.

## 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

TAF A2 siRNA (h) is recommended for the inhibition of TAF A2 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 TAF A2 gene expression knockdown using RT-PCR Primer: TAF A2 (h)-PR: sc-95941-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.