TADA2L siRNA (h): sc-93756



The Power to Question

BACKGROUND

TADA2L (transcriptional adapter 2-like), also known as TADA2A (transcriptional adapter 2- α) or ADA2-like protein, is a 443 amino acid nuclear protein that exists as two alternatively spliced isoforms. While most abundantly expressed in testis, TADA2L is present in all tissues. TADA2L contains one SANT domain and one SWIRM domain, and interacts with GCN5 and GR (NR3C1). Its ability to bind double-stranded DNA allows TADA2L to play a role in chromatin remodeling. Although it makes up part of the PCAF complex, TADA2L is also a component of the ATAC complex, a complex with histone acetyltransferase activity on histones H3 and H4. The gene that encodes TADA2L contains 71,408 bases and maps to human chromosome 17q12. Chromosome 7 houses over 1,000 genes, comprises nearly 5% of the human genome and has been linked to Osteogenesis imperfecta, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

- Candau, R., Moore, P.A., Wang, L., Barlev, N., Ying, C.Y., Rosen, C.A. and Berger, S.L. 1996. Identification of human proteins functionally conserved with the yeast putative adaptors ADA2 and GCN5. Mol. Cell. Biol. 16: 593-602.
- Carter, K.C., Wang, L., Shell, B.K., Zamir, I., Berger, S.L. and Moore, P.A. 1997. The human transcriptional adaptor genes TADA2L and GCN5L2 colocalize to chromosome 17q12-q21 and display a similar tissue expression pattern. Genomics 40: 497-500.
- Ogryzko, V.V., Kotani, T., Zhang, X., Schiltz, R.L., Howard, T., Yang, X.J., Howard, B.H., Qin, J. and Nakatani, Y. 1998. Histone-like TAFs within the PCAF histone acetylase complex. Cell 94: 35-44.
- Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602276. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- 5. Travers, M.T., Cambot, M., Kennedy, H.T., Lenoir, G.M., Barber, M.C. and Joulin, V. 2005. Asymmetric expression of transcripts derived from the shared promoter between the divergently oriented ACACA and TADA2L genes. Genomics 85: 71-84.
- Qian, C., Zhang, Q., Li, S., Zeng, L., Walsh, M.J. and Zhou, M.M. 2005. Structure and chromosomal DNA binding of the SWIRM domain. Nat. Struct. Mol. Biol. 12: 1078-1085.
- 7. Reiner, O., Sapoznik, S. and Sapir, T. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. Neuromolecular Med. 8: 547-565.
- 8. Wang, Y.L., Faiola, F., Xu, M., Pan, S. and Martinez, E. 2008. Human ATAC is a GCN5/PCAF-containing acetylase complex with a novel NC2-like histone fold module that interacts with the TATA-binding protein. J. Biol. Chem. 283: 33808-33815.
- 9. Guelman, S., Kozuka, K., Mao, Y., Pham, V., Solloway, M.J., Wang, J., Wu, J., Lill, J.R. and Zha, J. 2009. The double-histone-acetyltransferase complex ATAC is essential for mammalian development. Mol. Cell. Biol. 29: 1176-1188.

CHROMOSOMAL LOCATION

Genetic locus: TADA2A (human) mapping to 17q12.

PRODUCT

TADA2L 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TADA2L shRNA Plasmid (h): sc-93756-SH and TADA2L shRNA (h) Lentiviral Particles: sc-93756-V as alternate gene silencing products.

For independent verification of TADA2L (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-93756A, sc-93756B and sc-93756C.

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

TADA2L siRNA (h) is recommended for the inhibition of TADA2L 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 µM in 66 µl. 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 TADA2L gene expression knockdown using RT-PCR Primer: TADA2L (h)-PR: sc-93756-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.