SANTA CRUZ BIOTECHNOLOGY, INC.

AFF4 siRNA (m): sc-140897

BACKGROUND

AFF4 (AF4/FMR2 family, member 4), also known as MCEF or AF5Q31, localizes to the nucleus and is a member of the AF4 family of transcription factors. Ubiquitously expressed with highest expression in placenta, heart, pancreas and skeletal muscle, AFF4 is a 1,163 amino acid component of the positive transcription elongation factor b (P-TEFb) complex that contains Cdk9 (cyclin-dependent kinase 9) and cyclin T1. AFF4 is thought to function as a transcription factor that positively regulates transcription during fetal development, as well as in adult tissue. Defects in the gene encoding AFF4 lead to expression of an MLL-AFF4 (myeloid/lymphoid or mixed-lineage leukemia-AFF4) fusion protein that is found in acute lymphoblastic leukemia (ALL), implicating AFF4 in the pathogenesis of ALL. Three isoforms of AFF4 are expressed due to alternative splicing events.

REFERENCES

1. Taki, T., et al. 1999. AF5q31, a newly identified AF4-related gene, is fused to MLL in infant acute lymphoblastic leukemia with ins(5;11)(q31;q13q23). Proc. Natl. Acad. Sci. USA 96: 14535-14540.
2. Estable, M.C., et al. 2002. MCEF, the newest member of the AF4 family of transcription factors involved in leukemia, is a positive transcription elongation factor-b-associated protein. J. Biomed. Sci. 9: 234-245.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604417. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Urano, A., et al. 2005. Infertility with defective spermiogenesis in mice lacking AF5q31, the target of chromosomal translocation in human infant leukemia. Mol. Cell. Biol. 25: 6834-6845.
5. Niedzielski, M.F., et al. 2007. MCEF is localized to the nucleus by protein sequences encoded within three distinct exons, where it represses HIV-1 Tat-transactivation of LTR-directed transcription. Int. J. Biol. Sci. 3: 225-236.

CHROMOSOMAL LOCATION

Genetic locus: Aff4 (mouse) mapping to 11 B1.3.

PRODUCT

AFF4 siRNA (m) 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 AFF4 shRNA Plasmid (m): sc-140897-SH and AFF4 shRNA (m) Lentiviral Particles: sc-140897-V as alternate gene silencing products.

For independent verification of AFF4 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-140897A, sc-140897B and sc-140897C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

AFF4 siRNA (m) is recommended for the inhibition of AFF4 expression in mouse 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 AFF4 gene expression knockdown using RT-PCR Primer: AFF4 (m)-PR: sc-140897-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chen, Y., et al. 2022. AFF4 regulates cellular adipogenic differentiation via targeting autophagy. PLoS Genet. 18: e1010425.

RESEARCH USE

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