SANTA CRUZ BIOTECHNOLOGY, INC.

KLF12 siRNA (m): sc-146496

BACKGROUND

Krüppel-like factors (KLFs) comprise a family of evolutionarily conserved zinc finger-containing transcription factors with diverse regulatory functions in cell growth, proliferation, differentiation and embryogenesis. Individual members of the Sp1-like/KLF family can function either as activators or repressors, depending on which promoter they bind and which coregulators they interact with. KLF12 (krüppel-like factor 12), also known as AP2REP or HSPC122, is a 402 amino acid protein that localizes to the nucleus and contains three C_2H_2-type zinc fingers. One of several members of the Sp1 C_2H_2-type zinc-finger protein family, KLF12 binds to a regulatory element in the AP-2α gene promotor and, via this binding, functions as a strong repressor of AP-2α transcription. Two isoforms of KLF12 exist due to alternative splicing events.

REFERENCES

1. Imhof, A., et al. 1999. Transcriptional regulation of the AP-2α promoter by BTEB-1 and AP-2rep, a novel wt-1/egr-related zinc finger repressor. Mol. Cell. Biol. 19: 194-204.
2. Roth, C., et al. 2000. Genomic structure and DNA binding properties of the human zinc finger transcriptional repressor AP-2rep (KLF12). Genomics 63: 384-390.
3. Zhu, C.H., et al. 2001. Expression of AP-2 α in SV40 immortalized human lung fibroblasts is associated with a distinct pattern of cytosine methylation in the AP-2α promoter. Biochim. Biophys. Acta 1519: 85-91.
4. Rozenblum, E., et al. 2002. A genomic map of a 6-Mb region at 13q21-q22 implicated in cancer development: identification and characterization of candidate genes. Hum. Genet. 110: 111-121.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 607531. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Suda, S., et al. 2006. Postnatal expression of KLF12 in the inner medullary collecting ducts of kidney and its *trans*-activation of UT-A1 urea transporter promoter. Biochem. Biophys. Res. Commun. 344: 246-252.

CHROMOSOMAL LOCATION

Genetic locus: Klf12 (mouse) mapping to 14 E2.3.

PRODUCT

KLF12 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 KLF12 shRNA Plasmid (m): sc-146496-SH and KLF12 shRNA (m) Lentiviral Particles: sc-146496-V as alternate gene silencing products.

For independent verification of KLF12 (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-146496A, sc-146496B and sc-146496C.

RESEARCH USE

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

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

KLF12 siRNA (m) is recommended for the inhibition of KLF12 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 KLF12 gene expression knockdown using RT-PCR Primer: KLF12 (m)-PR: sc-146496-PR (20 µl). 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.