SANTA CRUZ BIOTECHNOLOGY, INC.

Kaiso siRNA (m): sc-38020

BACKGROUND

The POZ-zinc finger protein Kaiso is a member of the BTB/POZ family of zinc finger transcription factors implicated in embryonic development and cancer. Kaiso, also known as ZNF-kaiso, maps to human chromosome Xq23 and encodes a 627 amino acid protein. Kaiso is a transcriptional repressor that contains an amino-terminal BTB-POZ protein-protein interaction domain and three carboxy-terminal zinc finger domains of the C_2H_2 DNA-binding type. The zinc-finger domains of Kaiso specifically recognize symmetrically methylated DNA sequences *in vitro*. Kaiso is known to associate with p120 catenin. Kaiso functions throughout development, and its repressor functions are most apparant in the context of neural tissues. Kaiso is predominantly localized to the nucleus and is expressed in the brain, eye, ear, branchial arches and spinal cord as well as NIH/3T3 cells.

REFERENCES

1. Daniel, J., et al. 1999. The catenin $p120^{ctn}$ interacts with Kaiso, a novel BTB/POZ domain zinc finger transcription factor. Mol. Cell. Biol. 19: 3614-3623.
2. Daniel, J., et al. 2001. Monoclonal antibodies to Kaiso: a novel transcription factor and $p120^{ctn}$-binding protein. Hybridoma 20: 159-166.
3. Prokkhorchuk, A., et al. 2001. Kaiso-a new member of the BTB/POS family specifically binds to methylated DNA sequences. Genetika 37: 737-744.
4. Kim, S., et al. 2001. Isolation and characterization of XKaiso, a transcriptional repressor that associates with the catenin $Xp120^{ctn}$ in *Xenopus laevis*. J. Biol. Chem. 8: 8202-8208.
5. Prokhortchouk, A., et al. 2001. The p120 catenin partner Kaiso is a DNA methylation-dependent transcriptional repressor. Genes Dev. 15: 1613-1618.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 300329. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Zbtb33 (mouse) mapping to X A3.3.

PRODUCT

Kaiso 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 Kaiso shRNA Plasmid (m): sc-38020-SH and Kaiso shRNA (m) Lentiviral Particles: sc-38020-V as alternate gene silencing products.

For independent verification of Kaiso (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-38020A, sc-38020B and sc-38020C.

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

Kaiso siRNA (m) is recommended for the inhibition of Kaiso 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.

GENE EXPRESSION MONITORING

Kaiso (6F8): sc-23871 is recommended as a control antibody for monitoring of Kaiso gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Kaiso gene expression knockdown using RT-PCR Primer: Kaiso (m)-PR: sc-38020-PR (20 µl). 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.