SANTA CRUZ BIOTECHNOLOGY, INC.

Mam1 siRNA (h): sc-40731

BACKGROUND

Notch receptors are involved in cell-fate determination in organisms as diverse as flies, frogs, and humans. The mastermind gene has been identified in multiple genetic screens for modifiers of Notch mutations in *Drosophila melanogaster*. In *Drosophila*, loss-of-function mutations of Notch produce a neurogenic phenotype in which cells destined to become epidermis switch fate and differentiate to neural cells. The human homolog, mastermind-like 1 (Mam1), localizes to nuclear bodies. Mam1 binds to the ankyrin repeat domain of all four mammalian Notch receptors, forms a DNA-binding complex with ICN and RBP-Jk, and amplifies Notch-induced transcription of Hes1. Mam1 is an essential component of the transcriptional apparatus of Notch signaling. The gene which encodes Mam1 maps to human chromosome 5q35.3.

REFERENCES

1. Nagase, T., et al. 1996. Prediction of the coding sequences of unidentified human genes. V. The coding sequences of 40 new genes (KIAA0161-KIAA0200) deduced by analysis of cDNA clones from human cell line KG-1. DNA Res. 3: 17-24.
2. Wu, L., et al. 2000. Mam1, a human homologue of *Drosophila* mastermind, is a transcriptional co-activator for Notch receptors. Nat. Genet. 26: 484-489.
3. Chai, Y., et al. 2001. The role of protein composition in specifying nuclear inclusion formation in polyglutamine disease. J. Biol. Chem. 276: 44889-44897.
4. Kitagawa, M., et al. 2001. A human protein with sequence similarity to *Drosophila* mastermind coordinates the nuclear form of notch and a CSL protein to build a transcriptional activator complex on target promoters. Mol. Cell. Biol. 21: 4337-4346.
5. LocusLink Report (LocusID: 605424). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: MAML1 (human) mapping to 5q35.3.

PRODUCT

Mam1 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 Mam1 shRNA Plasmid (h): sc-40731-SH and Mam1 shRNA (h) Lentiviral Particles: sc-40731-V as alternate gene silencing products.

For independent verification of Mam1 (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-40731A, sc-40731B and sc-40731C.

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

Mam1 siRNA (h) is recommended for the inhibition of Mam1 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 Mam1 gene expression knockdown using RT-PCR Primer: Mam1 (h)-PR: sc-40731-PR (20 µl, 600 bp). 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.