SANTA CRUZ BIOTECHNOLOGY, INC.

Makorin-2 siRNA (m): sc-62587

BACKGROUND

The makorins are a family of putative ribonucleoproteins containing two to four C3H zinc fingers that may confer RNA-binding. In addition, they contain a C3HC4 RING zinc finger that allows them to function as E3 ubiquitin ligases. Makorin-2, also known as RNF62, HSPC070 or MKRN2, is a widely expressed, evolutionarily conserved protein with four C3H-type zinc fingers (three at the N-terminus and one at the C-terminus), one RING-type zinc finger and a cysteine and histidine motif similar to that found in Makorin-1. In *Xenopus*, Makorin-2 functions, via PI 3-kinase/Akt signaling, as a negative regulator of neurogenesis. In humans, Makorin-2 is overexpressed in various cancer cell lines, suggesting a possible role of Makorin-2 in tumor progression. In addition, Makorin-2 is co-expressed with Raf-1 in the same tissues and cell lines.

REFERENCES

1. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34+ hematopoietic stem/progenitor cells. Genome Res. 10: 1546-1560.
2. Gray, T.A., et al. 2001. Phylogenetic conservation of the Makorin-2 gene, encoding a multiple zinc-finger protein, antisense to the Raf-1 proto-oncogene. Genomics 77: 119-126.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608426. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Jarzab, B., et al. 2005. Gene expression profile of papillary thyroid cancer: sources of variability and diagnostic implications. Cancer Res. 65: 1587-1597.
5. Yang, P.H., et al. 2008. Makorin-2 is a neurogenesis inhibitor downstream of PI3k/AKT signal. J. Biol. Chem. 283: 8486-8495.

CHROMOSOMAL LOCATION

Genetic locus: Mkrn2 (mouse) mapping to 6 E3.

PRODUCT

Makorin-2 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 Makorin-2 shRNA Plasmid (m): sc-62587-SH and Makorin-2 shRNA (m) Lentiviral Particles: sc-62587-V as alternate gene silencing products.

For independent verification of Makorin-2 (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-62587A, sc-62587B and sc-62587C.

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.

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

Makorin-2 siRNA (m) is recommended for the inhibition of Makorin-2 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

Makorin-2 (C-5): sc-514185 is recommended as a control antibody for monitoring of Makorin-2 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 Makorin-2 gene expression knockdown using RT-PCR Primer: Makorin-2 (m)-PR: sc-62587-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.