SANTA CRUZ BIOTECHNOLOGY, INC.

MAB21L siRNA (h): sc-75721

BACKGROUND

MAB21L (mab-21-like 1), also known as CAGR1, is a 359 amino acid nuclear protein expressed in cerebellum and skeletal muscle. A member of the mab21 family, MAB21L is required for several aspects of embryonic development including normal development of the eye and cerebellum. MAB21L is similar to the MAB-21 cell fate-determining gene found in *Caenorhabditis elegans,* and it is suggested that the expansion of a trinucleotide repeat region in the 5' UTR of MAB21L may play a role in a variety of psychiatric disorders. MAB21L is encoded by a gene located on human chromsome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is a deadly syndrome associated with chromosome 13. The few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Margolis, R.L., et al. 1999. Unstable expansion of the CAG trinucleotide repeat in MAB21L1: report of a second pedigree and effect on protein expression. J. Med. Genet. 36: 62-64.
2. Wong, R.L., et al. 1999. Developmental expression of Mab21l2 during mouse embryogenesis. Mech. Dev. 87: 185-188.
3. Wong, R.L., et al. 2002. Depletion of Mab21l1 and Mab21l2 messages in mouse embryo arrests axial turning, and impairs notochord and neural tube differentiation. Teratology 65: 70-77.
4. Yamada, R., et al. 2003. Cell-autonomous involvement of Mab21l1 is essential for lens placode development. Development 130: 1759-1770.
5. Merello, E., et al. 2004. Molecular genetic analysis of human homologs of *Caenorhabditis elegans* mab-21-like 1 gene in patients with neural tube defects. Birth Defects Res. Part A Clin. Mol. Teratol. 70: 885-888.
6. Kennedy, B.N., et al. 2004. Zebrafish rx3 and mab21l2 are required during eye morphogenesis. Dev. Biol. 270: 336-349.
7. Yamada, R., et al. 2004. Requirement for Mab21l2 during development of murine retina and ventral body wall. Dev. Biol. 274: 295-307.

CHROMOSOMAL LOCATION

Genetic locus: MAB21L1 (human) mapping to 13q13.3.

PRODUCT

MAB21L 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 MAB21L shRNA Plasmid (h): sc-75721-SH and MAB21L shRNA (h) Lentiviral Particles: sc-75721-V as alternate gene silencing products.

For independent verification of MAB21L (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-75721A, sc-75721B and sc-75721C.

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

MAB21L siRNA (h) is recommended for the inhibition of MAB21L 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.

GENE EXPRESSION MONITORING

MAB21L (A-7): sc-393017 is recommended as a control antibody for monitoring of MAB21L 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 MAB21L gene expression knockdown using RT-PCR Primer: MAB21L (h)-PR: sc-75721-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.

PROTOCOLS

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