SANTA CRUZ BIOTECHNOLOGY, INC.

RIMKLB siRNA (h): sc-95697

BACKGROUND

RIMKLB (ribosomal modification protein rimK-like family member B), also known as NAAGS (N-acetyl-aspartyl-glutamate synthetase B), β-citryl-glutamate synthase B or FAM80B, is a 386 amino acid cytoplasmic protein that belongs to the rimK family. Acting as the catalyst in the synthesis of β-citryl-glutamate and N-acetyl-aspartyl-glutamate, RIMKLB contains one ATP-grasp domain and exists as two alternatively spliced isoforms. The gene encoding RIMKLB maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

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2. Delgado Carrasco, J., et al. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features. Case report. An. Esp. Pediatr. 55: 553-557.
3. Yokoyama, T., et al. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. Am. J. Ophthalmol. 136: 1186-1188.
4. Forzano, F., et al. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. Am. J. Med. Genet. A 143A: 2815-2820.
5. Wainwright, H. and Beighton, P. 2008. Visceral manifestations of hypochondrogenesis. Virchows Arch. 453: 203-207.
6. Lo, F.S., et al. 2009. High resolution melting analysis for mutation detection for PTPN11 gene: applications of this method for diagnosis of Noonan syndrome. Clin. Chim. Acta 409: 75-77.
7. Benussi, D.G., et al. 2009. Trisomy 12p and monosomy 4p: phenotype-genotype correlation. Genet. Test Mol. Biomarkers 13: 199-204.
8. Becker, I., et al. 2010. Molecular characterization of N-acetylaspartyl-glutamate synthetase. J. Biol. Chem. 285: 29156-29164.

CHROMOSOMAL LOCATION

Genetic locus: RIMKLB (human) mapping to 12p13.31.

PRODUCT

RIMKLB 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 RIMKLB shRNA Plasmid (h): sc-95697-SH and RIMKLB shRNA (h) Lentiviral Particles: sc-95697-V as alternate gene silencing products.

For independent verification of RIMKLB (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-95697A, sc-95697B and sc-95697C.

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

RIMKLB siRNA (h) is recommended for the inhibition of RIMKLB 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 RIMKLB gene expression knockdown using RT-PCR Primer: RIMKLB (h)-PR: sc-95697-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Perwitasari, O., et al. 2013. Targeting cell division cycle 25 homolog B to regulate influenza virus replication. J. Virol. 87: 13775-13784.

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.