SANTA CRUZ BIOTECHNOLOGY, INC.

KMCP1 siRNA (m): sc-60898

BACKGROUND

Members of the mitochondrial carrier family transport a variety of metabolites across the inner mitochondrial membrane. Kidney mitochondrial carrier protein-1 (KMCP1), also designated solute carrier family 25 member 30 (SLC25A30), is a multi-pass membrane protein that localizes to the mitochondria and is highly expressed in kidney cortex. It is important during increased mitochondrial metabolism and is up-regulated in response to cellular oxidative damage. KMCP1 is highly homologous to brain mitochondrial carrier protein-1 (BMCP1), a multi-pass membrane protein that is mainly expressed in brain with some expression in testis. BMCP1 facilitates mitochondrial proton leak and localizes to the mitochondrial inner membrane.

REFERENCES

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2. Nelson, D.R., Felix, C.M. and Swanson, J.M. 1998. Highly conserved charge-pair networks in the mitochondrial carrier family. J. Mol. Biol. 277: 285-308.
3. Sanchis, D., Fleury, C., Chomiki, N., Goubern, M., Huang, Q., Neverova, M., Gregoire, F., Easlick, J., Raimbault, S., Levi-Meyrueis, C., Miroux, B., Collins, S., Seldin, M., Richard, D., Warden, C., Bouillaud, F. and Ricquier, D. 1999. BMCP1, a novel mitochondrial carrier with high expression in the central nervous system of humans and rodents, and respiration uncoupling activity in recombinant yeast. J. Biol. Chem. 273: 34611-34615.
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5. Kim-Han, J.S., Reichert, S.A., Quick, K.L. and Dugan, L.L. 2001. BMCP1: a mitochondrial uncoupling protein in neurons which regulates mitochondrial function and oxidant production. J. Neurochem. 79: 658-668.

CHROMOSOMAL LOCATION

Genetic locus: Slc25a30 (mouse) mapping to 14 D3.

PRODUCT

KMCP1 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 KMCP1 shRNA Plasmid (m): sc-60898-SH and KMCP1 shRNA (m) Lentiviral Particles: sc-60898-V as alternate gene silencing products.

For independent verification of KMCP1 (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-60898A, sc-60898B and sc-60898C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

KMCP1 siRNA (m) is recommended for the inhibition of KMCP1 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

KMCP1 (C-7): sc-398835 is recommended as a control antibody for monitoring of KMCP1 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 KMCP1 gene expression knockdown using RT-PCR Primer: KMCP1 (m)-PR: sc-60898-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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