SANTA CRUZ BIOTECHNOLOGY, INC.

PGAM2 siRNA (h): sc-89331

BACKGROUND

PGAM (phosphoglycerate mutase) is a dimeric enzyme containing, in different tissues, contrasting proportions of a slow-migrating muscle (MM) isozyme, a fast-migrating brain (BB) isozyme and a hybrid form (MB). PGAM2 (phosphoglycerate mutase 2), also known as GSD10, PGAM-M (phosphoglycerate mutase isozyme M), BPG-dependent PGAM2 or muscle-specific phosphoglycerate mutase, is a 253 amino acid protein belonging to the phosphoglycerate mutase family and the BPG-dependent PGAM subfamily. Predominantly expressed in muscle and heart, PGAM2 catalyzes the reversible reaction of 3-phosphoglycerate (3-PGA) to 2-phosphoglycerate (2-PGA) in the glycolytic pathway. Mutations in the PGAM2 gene can cause muscle phosphoglycerate mutase deficiency, also known as glycogen storage disease X, a metabolic disorder that is characterized by myoglobinuria, increased serum creatine kinase levels, decreased phosphoglycerate mutase activity, myalgia, muscle pain, muscle cramps and exercise intolerance. The gene that encodes PGAM2 maps to human chromosome 7p13.

REFERENCES

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5. Fontanesi, L., et al. 2003. Study of candidate genes for glycolytic potential of porcine skeletal muscle: identification and analysis of mutations, linkage and physical mapping and association with meat quality traits in pigs. Cytogenet. Genome Res. 102: 145-151.
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CHROMOSOMAL LOCATION

Genetic locus: PGAM2 (human) mapping to 7p13.

RESEARCH USE

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

PRODUCT

PGAM2 siRNA (h) is a pool of 2 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 PGAM2 shRNA Plasmid (h): sc-89331-SH and PGAM2 shRNA (h) Lentiviral Particles: sc-89331-V as alternate gene silencing products.

For independent verification of PGAM2 (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-89331A and sc-89331B.

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

PGAM2 siRNA (h) is recommended for the inhibition of PGAM2 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 PGAM2 gene expression knockdown using RT-PCR Primer: PGAM2 (h)-PR: sc-89331-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.