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SANTA CRUZ BIOTECHNOLOGY, INC.

PDH-E1β siRNA (m): sc-152135

BACKGROUND

The pyruvate dehydrogenase (PDH) complex is a nuclear-encoded mitochondrial matrix enzyme complex that functions as the primary link between glycolysis and the tricarboxylic acid (TCA) cycle by catalyzing the irreversible conversion of pyruvate into acetyl-CoA. The E1 enzyme of the PDH complex is made up of a heterotetramer of two α and two β subunits. The E1α subunit (PDH-E1α) contains the E1 active site and plays a key role in the function of the PDH complex. The PDH complex is regulated by phosphorylation and dephosphorylation of PDH-E1α. The E1-β subunit (PDH-E1β) functions as a checkpoint for stage II-III of bacterial sporulation. Pyruvate dehydrogenase deficiency in individuals is attributed to the absence of functional PDH-E1β.

REFERENCES

1. Sermon, K., De Meirleir, L., Elpers, I., Lissens, W. and Liebaers, I. 1990. Characterisation of a cDNA for porcine PDH-E1α and comparison with the human cDNA. Nucleic Acids Res. 18: 4925.
2. Chun, K., MacKay, N., Petrova-Benedict, R. and Robinson, B.H. 1991. Pyruvate dehydrogenase deficiency due to a 20-bp deletion in exon II of the pyruvate dehydrogenase (PDH) E1α gene. Am. J. Hum. Genet. 49: 414-420.
3. Chun, K., MacKay, N., Petrova-Benedict, R. and Robinson, B.H. 1993. Mutations in the X-linked E1α subunit of pyruvate dehydrogenase leading to deficiency of the pyruvate dehydrogenase complex. Hum. Mol. Genet. 2: 449-454.
4. Hansen, L.L., Horn, N., Dahl, H.H. and Kruse, T.A. 1994. Pyruvate dehydrogenase deficiency caused by a 33 base pair duplication in the PDH-E1α subunit. Hum. Mol. Genet. 3: 1021-1022.
5. Brown, G.K., Otero, L.J., LeGris, M. and Brown, R.M. 1995. Pyruvate dehydrogenase deficiency. J. Med. Genet. 31: 875-879.
6. Otero, L.J., Brown, G.K., Silver, K., Arnold, D.L. and Matthews, P.M. 1996. Association of cerebral dysgenesis and lactic acidemia with x-linked PDH-E1α subunit mutations in females. Pediatr. Neurol. 13: 327-332.
7. Neveling, U., Bringer-Meyer, S. and Sahm, H. 1999. Exceptional characteristics of heterotetrameric ($\alpha_2\beta_2$) E1p of the pyruvate dehydrogenase complex from *Zymomonas mobilis:* expression from an own promoter and a lipoyl domain in E1β. FEMS Microbiol. Lett. 177: 117-121.
8. Dallo, S.F., Kannan, T.R., Blaylock, M.W. and Baseman, J.B. 2002. Elongation factor Tu and E1β subunit of pyruvate dehydrogenase complex act as Fibronectin binding proteins in *Mycoplasma pneumoniae.* Mol. Microbiol. 46: 1041-1051.
9. Pilegaard, H., Birk, J.B., Sacchetti, M., Mourtzakis, M., Hardie, D.G., Stewart, G., Neufer, P.D., Saltin, B., van Hall, G. and Wojtaszewski, J.F. 2006. PDH-E1α dephosphorylation and activation in human skeletal muscle during exercise: effect of intralipid infusion. Diabetes 55: 3020-3027.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Pdhb (mouse) mapping to 14 A1.

PRODUCT

PDH-E1β 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 PDH-E1β shRNA Plasmid (m): sc-152135-SH and PDH-E1β shRNA (m) Lentiviral Particles: sc-152135-V as alternate gene silencing products.

For independent verification of PDH-E1β (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-152135A, sc-152135B and sc-152135C.

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

PDH-E1β siRNA (m) is recommended for the inhibition of PDH-E1β 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PDH-E1β gene expression knockdown using RT-PCR Primer: PDH-E1β (m)-PR: sc-152135-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.