SANTA CRUZ BIOTECHNOLOGY, INC.

LDH-AL6A siRNA (h): sc-105610

BACKGROUND

The lactate dehydrogenase family (LDH) consists of three members, designated LDH-A, LDH-B and LDH-C, all of which work in concert to catalyze the final step of anaerobic glycolysis, namely the conversion of L-lactate and NAD^+ to pyruvate and NADH. Each family member displays a specific tissue distribution pattern, with LDH-A present in muscle and LDH-B present in heart, while LDH-C expression is confined to testis and sperm. LDH-AL6A (lactate dehydrogenase A-like 6A), also known as LDHL2, is a 332 amino acid testis-specific protein that functions in a similar manner to LDH-A, specifically catalyzing the NAD^+-dependent formation of pyruvate and NADH. Additionally, LDH-AL6A is thought to activate the transcriptional activities of c-Jun, suggesting a role for LDH-AL6A in transcriptional control.

REFERENCES

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3. Kanno, T., et al. 1995. Lactate dehydrogenase M-subunit deficiencies: clinical features, metabolic background, and genetic heterogeneities. Muscle Nerve 3: 54-60.
4. Kopperschlager, G., et al. 1996. Methods for the separation of lactate dehydrogenases and clinical significance of the enzyme. J. Chromatogr. B, Biomed. Appl. 684: 25-49.
5. Auerbach, G., et al. 1998. Lactate dehydrogenase from the hyperthermophilic bacterium *Thermotoga maritima:* the crystal structure at 2.1 A resolution reveals strategies for intrinsic protein stabilization. Structure 6: 769-781.
6. Niwakawa, M., et al. 2001. The role of tumor markers in the treatment of germ cell tumor. Gan To Kagaku Ryoho 28: 1159-65.
7. Chen, X., et al. 2009. Identification of a novel human lactate dehydrogenase gene LDH-AL6A, which activates transcriptional activities of AP1(PMA). Mol. Biol. Rep. 36: 669-676.

CHROMOSOMAL LOCATION

Genetic locus: LDHAL6A (human) mapping to 11p15.1.

PRODUCT

LDH-AL6A 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 LDH-AL6A shRNA Plasmid (h): sc-105610-SH and LDH-AL6A shRNA (h) Lentiviral Particles: sc-105610-V as alternate gene silencing products.

For independent verification of LDH-AL6A (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-105610A, sc-105610B and sc-105610C.

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

LDH-AL6A siRNA (h) is recommended for the inhibition of LDH-AL6A 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 LDH-AL6A gene expression knockdown using RT-PCR Primer: LDH-AL6A (h)-PR: sc-105610-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.