SANTA CRUZ BIOTECHNOLOGY, INC.

LALP70 siRNA (m): sc-146640

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD39, also known as ectonucleoside triphosphate diphosphohydrolase 1 (ENP1), is an integral membrane glycoprotein that acts as an extracellular nucleotide-hydrolyzing enzyme. Characteristically, CD39 and other members of the ecto-ATPase family contain apyrase-conserved regions and function to mediate nucleotide catabolism. As a member of ecto-ATPase family, LALP70 (lysosomal apyrase-like protein of 70 kDa), also designated ectonucleoside triphosphate diphosphohydrolase 4 (NTPDase 4) or uridine-diphosphatase (UDPase), is a 616 amino acid protein that localizes to the Golgi apparatus and autophagic vacuoles/lysosomes. With highest levels detected in testis, LALP70 is also expressed as a splice variant, LALP70v. These variants differ in their substrate specificity as well as their need for calcium and magnesium as cofactors. LALP70 utilizes UTP and TTP preferentially, while LALP70v displays a broader specificity for preferred substrates, including CTP, UDP, CDP, GTP, and GDP.

REFERENCES

1. Chadwick, B.P. and Frischauf, A.M. 1998. The CD39-like gene family: identification of three new human members (CD39L2, CD39L3, and CD39L4), their murine homologues, and a member of the gene family from *Drosophila melanogaster.* Genomics 50: 357-367.
2. Chadwick, B.P., Williamson, J., Sheer, D. and Frischauf, A.M. 1998. cDNA cloning and chromosomal mapping of a mouse gene with homology to NTPases. Mamm. Genome 9: 162-164.
3. Biederbick, A., Rose, S. and Elsässer, H.P. 1999. A human intracellular apyrase-like protein, LALP70, localizes to lysosomal/autophagic vacuoles. J. Cell Sci. 112: 2473-2484.
4. Biederbick, A., Kosan, C., Kunz, J. and Elsässer, H.P. 2000. First apyrase splice variants have different enzymatic properties. J. Biol. Chem. 275: 19018-19024.
5. Ivanenkov, V.V., Murphy-Piedmonte, D.M. and Kirley, T.L. 2003. Bacterial expression, characterization, and disulfide bond determination of soluble human NTPDase6 (CD39L2) nucleotidase: implications for structure and function. Biochemistry 42: 11726-11735.
6. Biederbick, A., Rösser, R., Storre, J. and Elsässer, H.P. 2004. The VSFASSQQ motif confers calcium sensitivity to the intracellular apyrase LALP70. BMC Biochem. 5: 8.
7. Köhler, D., Eckle, T., Faigle, M., Grenz, A., Mittelbronn, M., Laucher, S., Hart, M.L., Robson, S.C., Müller, C.E. and Eltzschig, H.K. 2007. CD39/ectonucleoside triphosphate diphosphohydrolase 1 provides myocardial protection during cardiac ischemia/reperfusion injury. Circulation 116: 1784-1794.

CHROMOSOMAL LOCATION

Genetic locus: Entpd4 (mouse) mapping to 14 D2.

PROTOCOLS

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

PRODUCT

LALP70 siRNA (m) is a target-specific 19-25 nt siRNA 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 LALP70 shRNA Plasmid (m): sc-146640-SH and LALP70 shRNA (m) Lentiviral Particles: sc-146640-V as alternate gene silencing products.

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

LALP70 siRNA (m) is recommended for the inhibition of LALP70 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 LALP70 gene expression knockdown using RT-PCR Primer: LALP70 (m)-PR: sc-146640-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.