

PNPLA7 siRNA (m): sc-152360

BACKGROUND

PNPLA7 (patatin-like phospholipase domain containing), also known as NTE1 or NTE-R1, is a 1,317 amino acid single-pass membrane protein that contains three cyclic nucleotide-binding domains, one patatin domain and belongs to the NTE family. Predominantly expressed in prostate, pancreas and adipose tissue, PNPLA7 shares approximately 60% sequence identity with PNPLA6 and exists as five alternatively spliced isoforms. PNPLA7 functions as a serine hydrolase, whose specific chemical modification by certain organophosphorus compounds results in distal axonopathy. PNPLA7, like other human patatin-like phospholipases, plays a role in regulating adipocyte differentiation. PNPLA7 is induced by metabolic stimuli and may be involved in energy metabolism. The gene that encodes PNPLA7 maps to human chromosome 9q34.3.

REFERENCES

1. Wilson, P.A., et al. 2006. Characterization of the human patatin-like phospholipase family. *J. Lipid Res.* 47: 1940-1949.
2. Chang, P.A., et al. 2007. Molecular cloning and expression of the C-terminal domain of mouse NTE-related esterase. *Mol. Cell. Biochem.* 306: 25-32.
3. Saarela, J., et al. 2008. The patatin-like lipase family in *Gallus gallus*. *BMC Genomics* 9: 281.
4. Kienesberger, P.C., et al. 2008. Identification of an Insulin-regulated lysophospholipase with homology to neuropathy target esterase. *J. Biol. Chem.* 283: 5908-5917.
5. Vose, S.C., et al. 2008. Cellular function of neuropathy target esterase in lysophosphatidylcholine action. *Toxicol. Appl. Pharmacol.* 232: 376-383.
6. Yatsenko, S.A., et al. 2009. Molecular mechanisms for subtelomeric rearrangements associated with the 9q34.3 microdeletion syndrome. *Hum. Mol. Genet.* 18: 1924-1936.
7. Zechner, R., et al. 2009. Adipose triglyceride lipase and the lipolytic catabolism of cellular fat stores. *J. Lipid Res.* 50: 3-21.
8. Kienesberger, P.C., et al. 2009. Mammalian patatin domain containing proteins: a family with diverse lipolytic activities involved in multiple biological functions. *J. Lipid Res.* 50: S63-S68.

CHROMOSOMAL LOCATION

Genetic locus: Pnpla7 (mouse) mapping to 2 A3.

PRODUCT

PNPLA7 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PNPLA7 shRNA Plasmid (m): sc-152360-SH and PNPLA7 shRNA (m) Lentiviral Particles: sc-152360-V as alternate gene silencing products.

For independent verification of PNPLA7 (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-152360A, sc-152360B and sc-152360C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PNPLA7 siRNA (m) is recommended for the inhibition of PNPLA7 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 μ M in 66 μ l. 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 PNPLA7 gene expression knockdown using RT-PCR Primer: PNPLA7 (m)-PR: sc-152360-PR (20 μ l). 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.