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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

LYPLA3 siRNA (m): sc-149182

BACKGROUND

LYPLA3 (lysophospholipase 3) also referred to as ACS, LLPL or LPLA2 (lysosomal phospholipase A2), is ubiquitously expressed with highest expression in kidney, placenta, pancreas, testis, spleen, heart and skeletal muscle. LYPLA3, which localizes to lysosomes, is calcium-independent and has an acidic pH optimum. LYPLA3 transacylates ceramide and increases lysosomal membrane permeability to both potassium ions and protons. It may play a critical role in pulmonary surfactant phospholipid degradation due to its high specificity towards phosphatidylethanolamine and phosphatidylcholine in alveolar macrophages. LYPLA3 may also enhance lysosome osmotic sensitivity, resulting in the destabilization of the enzyme by causing leakage and inducing apoptosis. LYPLA3 is thought to remodel acyl groups and modulate the biological and pharmacological activities of some lipophilic alcohols.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Pla2g15 (mouse) mapping to 8 D3.

PROTOCOLS

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

PRODUCT

LYPLA3 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 LYPLA3 shRNA Plasmid (m): sc-149182-SH and LYPLA3 shRNA (m) Lentiviral Particles: sc-149182-V as alternate gene silencing products.

For independent verification of LYPLA3 (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-149182A, sc-149182B and sc-149182C.

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

LYPLA3 siRNA (m) is recommended for the inhibition of LYPLA3 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 LYPLA3 gene expression knockdown using RT-PCR Primer: LYPLA3 (m)-PR: sc-149182-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.