

Table S1 Primer sequences used for qPCR

| Gene Name | Full name | | Primer Sequence (5'-3') |
|-----------|--|---------|-------------------------|
| SPHK1 | sphingosine kinase 1 | Forward | TCCAGGCCGACATTTCCTTC |
| | | Reverse | TCAGCCCGTCTCCAGACATA |
| SPHK2 | sphingosine kinase 2 | Forward | CCCGATTGCTCCTACTGGTC |
| | | Reverse | TCTCCCGAGACTGTGACGAT |
| SPTLC1 | serine palmitoyltransferase long chain base subunit 1 | Forward | AACCTCTTGTCCCTCCTGTCT |
| | | Reverse | CACAAGTCCCCACACCATACT |
| SPTLC2 | serine palmitoyltransferase long chain base subunit 2 | Forward | TGCGGACACATTCTCACAGT |
| | | Reverse | ATCCTACCACAACGACACCG |
| SPTLC3 | serine palmitoyltransferase long chain base subunit 3 | Forward | ACCACGCATCTCTTGTGCTT |
| | | Reverse | CTGGGGCAGATACACGATGG |
| SPTSSA | serine palmitoyltransferase small subunit A | Forward | GGAAGCAAATGTCTGGTTCT |
| | | Reverse | GAATTGAACACAGTCCGCTCC |
| SPTSSB | serine palmitoyltransferase small subunit B | Forward | TGCTGTGCTGTCTTAGAGCC |
| | | Reverse | CAGGCGAATGTGGATTGGGA |
| SMPD1 | sphingomyelin phosphodiesterase 1 | Forward | GGGTTCTATGCCCTTTCCCC |
| | | Reverse | CCTCGTCGTAGAACACCTCG |
| SMPD2 | sphingomyelin phosphodiesterase 2 | Forward | TGGATTGGTGCTCAATGCCT |
| | | Reverse | CAGGCACCATCGTACAACCT |
| SMPD3 | sphingomyelin phosphodiesterase 3 | Forward | GATGTCGGGGTCTATGGCTG |
| | | Reverse | GAAATCAGCCAGCCAGTCCT |
| SGPL1 | sphingosine-1-phosphate lyase 1 | Forward | ATCGGGAACCTGGCCTTTGAG |
| | | Reverse | AAGCCTCCCAGACAAGCATC |
| SGMS1 | sphingomyelin synthase 1 | Forward | TGGCACGCTGTACCTGTATC |
| | | Reverse | GGGCTTCCCAGTCTCCAAAA |
| SGMS2 | sphingomyelin synthase 2 | Forward | TTGCCTTCGTGTACGCTCTT |
| | | Reverse | AGTTAGTGTACAGCACGACGG |
| FASN | fatty acid synthase | Forward | CTGCTGGACTCGCTCTTTGA |
| | | Reverse | CTTTGCCTATGTGCTTGCCC |
| HMGCR | 3-hydroxy-3-methylglutaryl-CoA reductase | Forward | AAAGGAGGCATTGACAGCA |
| | | Reverse | ATCACCTGACCTGGACTGGA |
| ACACA | acetyl-CoA carboxylase alpha | Forward | CCAGCACTCCCGCTTCATAA |
| | | Reverse | GTAAGGCCAAGCCATCCTGT |
| CEPT1 | choline/ethanolamine phosphotransferase 1 | Forward | ATTTGCTGGCAGTGATTGGAG |
| | | Reverse | GACGCTTGTTCTGCTATGGT |
| PCYT2 | phosphate cytidylyltransferase 2 | Forward | GAGGTCAACCGCTACAAGGG |
| | | Reverse | ACGATCTCCGTCTTCCCGT |

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|--------|-----------------------------------|---------|-------------------------|
| PCYT1A | phosphate cytidylyltransferase 1A | Forward | GCCAGACGGAACCTACAGAG |
| | | Reverse | ACAGAACTTCAGTGCTCCTTC |
| PTDSS1 | phosphatidylserine synthase 1 | Forward | ATGCTTACCTCACCGACACG |
| | | Reverse | AGTGCTCTGCATACCACACC |
| PISD | phosphatidylserine decarboxylase | Forward | ATGTCCAAACCCGCCCTGAA |
| | | Reverse | GGCCTCCTTCATGTTACCCC |
| ACTB | actin beta | Forward | CTCCATCATGAAGTGCGACGT |
| | | Reverse | GTGATCTCCTTCTGCATCCTGTC |
