Supplementary Table 1. SM composition of WT and CerS2 null mouse liver. For details, see Table 1. Statistical analysis was performed for the changes in C16, C22, C24 and C24:1-SM in WT mice as indicated.

	SM acyl chain length (*pmol/mg of tissue*) (WT)									
	C14	C16[a]	C18:1	C18	C20	C22	C24:1	C24	C26:1	C26
Age (*days*)										
0	6.7 ± 1.9	617 ± 127	8.4 ± 2.4	84.3 ±17.0	27.6 ± 5.5	99.4 ± 19.0[b]	191± 44	114 ± 23	2.4 ± 0.4	1.6 ± 0.3
7	12.9 ± 0.3	575 ± 108	4.6 ± 0.9	37.9 ± 4.8	12.2 ± 4.4	25.0 ± 6.9[c]	224 ± 72	84.1 ± 19.2	2.0 ± 0.3	1.8 ± 0.5
14	8.9 ± 1.5	300 ±58	7.0 ± 1.6	54.9 ±10.4	13.9 ± 2.0	34.3 ± 2.8[d]	194 ± 24	89.3 ± 8.6[j]	1.9 ± 0.0	2.9 ± 0.3
21	6.6 ± 2.3	318 ± 281	5.8 ± 0.4	68.1 ± 8.0	23.1 ± 0.4	68.5 ± 12.5[e]	297± 84[g]	127 ± 39[k]	2.1 ± 0.7	3.7 ± 1.4
30	6.9 ± 0.3	226 ± 96	4.6 ± 1.6	46.9 ±27.3	24.0 ± 4.1	110.6 ± 7.8[f]	317± 144[h]	126 ± 33	1.3 ± 0.6	1.0 ± 0.2
60	11.6 ± 1.9	170 ± 41	2.3	27.2 ±10.4	25.5 ± 8.7	115.4 ±33.6	288± 127[i]	149 ± 60	1.3 ± 0.6	1.5 ± 0.3
120	8.1 ± 1.0	132 ± 27	2.2 ± 0.1	17.9 ± 0.7	20.5 ± 2.8	121.3 ±14.2	174± 16	87.0 ± 1.45	0.9 ± 0.1	1.4 ± 0.5

	SM acyl chain length (*pmol/mg of tissue*) (CerS2 null)									
	C14	C16	C18:1	C18	C20	C22	C24:1	C24	C26:1	C26
Age (*days*)										
0	11.1 ± 4.4	1265 ± 462	6.0 ± 2.3	68.1 ± 24.6	24.8 ± 8.7	14.4 ± 4.9	3.4 ± 1.3	7.9 ± 2.5	0.45 ± 0.2	0.4±0.1
7	9.4 ± 0.6	675 ± 26	1.8 ± 0.0	9.6 ± 0.9	4.7 ± 0.5	3.6 ± 0.5	1.0 ± 0.3	2.1 ± 0.4	0.2 ± 0.0	0.1±0.0
14	11.6 ± 0.3	763 ± 41	6.1 ± 0.1	24.6 ± 3.7	10.4 ± 0.7	6.2 ± 0.1	1.9 ± 0.8	2.9 ± 0.4	0.3 ± 0.2	0.2±0.1
21	11.6 ± 3.3	1168 ± 281	4.0 ± 2.2	33.2 ± 9.6	16.3 ± 4.3	11.8 ± 2.6	2.2 ± 0.4	5.1 ± 0.6	0.1 ± 0.0	0.2±0.0

30	7.7 ± 1.4	773 ± 53	12.1 ± 1.6	46.8 ± 5.7	23.7 ± 6.6	16.6 ± 2.6	1.8 ± 0.2	5.0 ± 0.5	0.2 ± 0.0	0.3±0.0
60		930 ± 343		76.3 ± 41.9	43.1 ± 21.9	25.6 ± 10.9	5.1 ± 2.7	9.9 ± 4.8	0.2 ± 0.1	0.4±0.2
120	4.6 ± 0.1	1036 ± 61	6.9 ± 0.6	49.7 ± 12.9	28.2 ± 9.1	22.9 ± 0.7	19.8 ± 12.8	11.3 ± 3.7	0.3 ± 0.0	0.2±0.0

[a] C16-SM levels were significantly reduced after 14, 21, 30, 60 and 120 days compared to day 0 ($p < 0.05$)
[b] versus [c], [d] versus [e], [g] versus [h], [g] versus [i], [j] versus [k], $p < 0.05$
[e] versus [f], $p < 0.01$

Supplementary Table 2. HexCer composition of WT and CerS2 null mouse livers. For details, see Table 1. Statistical analysis was performed for the changes in C16, C22, C24 and C24:1-HexCer in WT mice as indicated.

	HexCer acyl chain length (*pmol/mg of tissue*) (WT)									
	C14	C16	C18:1	C18	C20	C22	C24:1[g]	C24	C26:1	C26
Age (*days*)										
0	0.7 ± 0.2	21.3 ± 3.0[a]	0.1 ± 0.0	3.7 ± 0.2	2.1 ± 0.2	8.5 ± 0.7[d]	6.8 ± 1.4	10.3 ± 0.7	0.3 ± 0.1	0.1±0.1
7	1.0 ± 0.1	43.4 ± 2.1[b]	0.0 ± 0.0	2.8 ± 0.6	0.9 ± 0.3	3.6 ± 0.4[e]	11.8 ± 1.7	11.3 ± 0.2[h]	0.2 ± 0.1	0.1±0.0
14	0.6 ± 0.0	27.9 ± 3.7[c]	0.3 ± 0.0	8.2 ± 0.7	2.9 ± 0.6	11.8 ± 2.0[f]	13.3 ± 2.0	20.4 ± 2.1[j]	0.3 ± 0.0	0.3±0.0
21	0.6 ± 0.2	24.3 ± 6.7	0.5 ± 0.0	7.4 ± 1.6	4.6 ± 0.8	19.4 ± 4.7	19.8 ± 2.9	22.3 ± 3.1[i]	0.3 ± 0.0	0.2±0.1
30	0.5 ± 0.0	7.9 ± 5.5	0.1 ± 0.0	3.1 ± 2.8	1.9 ± 1.2	9.3 ± 4.3	10.1 ± 5.8	6.3 ± 3.7[k]	0.3 ± 0.0	0.2±0.0
60	0.6	6.6 ± 3.6	0.2	1.2 ± 0.8	3.0 ± 1.8	11.2 ± 6.5	6.0 ± 2.6	8.0 ± 3.5	0.8 ± 0.7	0.4±0.3
120	0.6 ± 0.4	2.7 ± 0.5	0.1 ± 0.1	0.5 ± 1.8	0.8 ± 0.5	7.2 ± 2.7	3.5 ± 0.7	3.5 ± 1.6	0.1 ± 0.1	0.1±0.0

	HexCer acyl chain length (*pmol/mg of tissue*) (CerS2 null)									
	C14	C16	C18:1	C18	C20	C22	C24:1	C24	C26:1	C26
Age (*days*)										
0	0.4 ± 0.0	46.4 ± 8.9	0.2 ± 0.0	1.8 ± 0.5	1.5 ± 0.3	1.4 ± 0.3	0.1 ± 0.1	0.6 ± 0.1	0.3 ± 0.1	0.2±0.1
7	0.6 ± 0.1	46.0 ± 5.9	0.0 ± 0.0	0.5 ± 0.0	0.4 ± 0.0	0.4 ± 0.1	0.0 ± 0.0	0.4 ± 0.1	0.1 ± 0.0	0.0±0.0
14	0.6 ± 0.1	44.7 ± 1.0	0.1 ± 0.0	1.3 ± 0.2	1.2 ± 0.2	1.4 ± 0.1	0.0 ± 0.0	0.6 ± 0.0	0.0 ± 0.0	0.1±0.0
21	0.4 ± 0.1	52.0 ± 14.6	0.0 ± 0.0	1.0 ± 0.4	1.3 ± 0.4	1.5 ± 0.1	0.1 ± 0.0	0.7 ± 0.0	0.0 ± 0.0	0.1±0.0

30	0.5 ± 0.1	25.1 ± 2.4	0.0 ± 0.0	1.2 ± 0.7	1.0 ± 0.2	1.2 ± 0.1	0.1 ± 0.0	0.4 ± 0.0	0.0 ±0.0	0.0±0.0
60	0.8	39.7 ± 21.2	0.00	1.3 ± 1.0	2.9 ± 2.0	2.6 ± 0.9	0.3 ± 0.1	0.7 ± 0.1	0.8 ± 0.8	0.2±0.0
120	0.4 ± 0.1	42.2 ± 13.1	0.3 ± 0.0	0.9 ± 0.3	1.8 ± 1.0	2.2 ± 0.9	0.2 ± 0.0	0.7 ± 0.1	0.0	0.2±0.2

[a] versus [b], [e] versus [f], [h] versus [j], [i] versus [k], $p < 0.05$
[b] versus [c], [d] versus [e], $p < 0.01$
[g] C24:1-HexCer levels were significantly elevated after 7, 14, 21 days compared to day 0 ($p < 0.05$), and significantly reduced on days 60 and 120 compared to days 30 ($p < 0.05$)