Supplemental Table I. The gene expression of 27 acyltransferases in MOVAS-1 cells.

Gene Name	(pg)/18S(ng)	Gene Name	(pg)/18S(ng)
Acat1	19.53	*Gpat4*	9.75
Acat2	0.04	*Lclat1*	1.05
Agpat1	34.31	*Lpcat1*	28.15
Agpat2	0.16	*Lpcat2*	0.22
Agpat3	71.11	*Lpcat3*	32.71
Agpat4	29.94	*Lpcat4*	9.49
Agpat5	3.30	*Lpgat1*	9.50
Awat1	N.D.	*Mboat1*	35.55
Awat2	N.D.	*Mboat2*	N.D.
Dgat1	0.02	*Mboat7*	N.D.
Dgat2	0.12	*Mogat1*	N.D.
Gpat1	13.21	*Mogat2*	1.09
Gpat2	N.D.	*Sptlc1*	0.12
Gpat3	0.16		

The quantitative expression values of 27 acyltransferase were calculated using the absolute standard curve method of real-time qPCR with plasmid templates containing each full length target gene.

Supplemental Table II. shRNA Clone IDs used for generating stable knockdown cells

Gene Name	Clone ID
Acat1	V2LMM_34791
Acat2	V3LMM_423666
Agpat1	TRCN0000173860
Agpat2	V2LMM_64946
Agpat3	V3LMM_460834
Agpat4	V3LMM_446166
Agpat5	V3LMM_415929
Atf6	V3LMM_459160
Dgat1	TRCN0000124789
Dgat2	TRCN0000125476
Gpat1	TRCN0000012156
Gpat3	TRCN0000099285
Gpat4	V3LMM_414952
Ire1	V3LMM_425499
Lipin2	TRCN0000098248
Lpcat1	TRCN0000183242
Lpcat2	V3LMM_508093
Lpcat3	V3LMM_511114
Lpcat4	V3LMM_451294
Lpgat1	TRCN0000125609
Mboat1	V3LMM_510216
Mogat2	TRCN0000018442
Scd2	V3LMM_516055
Sptlc1	TRCN0000103400

MOVAS-1 cells were infected with lentiviruses expressing *Acat (1 or 2), Agpat (1, 2, 3, 4, or 5), Atf6, Dgat(1 or 2), Gpat (1, 3 or 4), Ire1, Lipin2, Lpcat (1, 2, 3, or 4), Lpgat1, Mboat1, Mogat2, Scd2* or *Sptlc1* shRNA and selected with puromycin for 7 days. Each mRNA level was measured by real-time qPCR. Changes in gene expression are reported as ratios relative to the control empty shRNA.

Supplemental Table III.
Fold changes of lipid contents in VSMCs treated with SCD inhibitor.

Rank		Fold change (vs. Veh)	*p value*
1	PA-18:0/18:0	256.14	0.00
2	PA-16:0/16:0	243.62	0.00
3	PA-16:0/18:0	232.24	0.00
4	PA-14:0/18:0	54.25	0.00
5	LPA-18:0	9.13	0.00
6	LPA-16:0	7.81	0.00
7	DAG-16:0/18:0	7.10	0.00
8	DAG-16:0/16:0	6.09	0.01
9	PE-16:1/20:0	5.11	0.00
10	PE-16:0/22:5	4.68	0.03
11	LPS-18:2	4.67	0.03
12	DAG-16:1/18:0	4.18	0.00
13	DAG-18:0/18:0	4.07	0.00
14	DAG-14:0/18:0	3.85	0.00
15	LPS-16:0	3.78	0.08
16	PE-16:0/16:1	3.77	0.04
17	PE-16:0/18:3	3.70	0.09
18	PS-17:0/17:6	3.68	0.12
19	PS-18:1/22:4	3.63	0.15
20	PS-16:1/18:0	3.41	0.01
21	LPA-16:1	3.32	0.07
22	PE-16:0/22:6	3.26	0.18
23	TAG-18:0/18:0/18:0	3.21	0.01
24	PE-18:3/20:0	3.14	0.01
25	LPA-20:5	2.93	0.03
26	PE-20:0/20:4	2.86	0.00
27	PE-16:0/18:2	2.69	0.00
28	PG-16:0/20:3	2.69	0.22
29	DAG-18:0/18:1	2.62	0.01
30	PG-16:0/16:0	2.48	0.08
31	PG-16:0/20:1	2.48	0.13
32	PE-16:1/18:0	2.46	0.02
33	PS-16:1/18:06	2.37	0.04
34	PE-18:0/20:5	2.37	0.01
35	TAG-16:0/16:0/18:0	2.30	0.00
36	PG-16:0/16:0	2.29	0.10
37	PE-16:0/20:2	2.26	0.06
38	LPC-16:0e	2.22	0.01
39	PE-16:0/18:0	2.18	0.23
40	PE-16:1/16:1	2.17	0.05
41	PG-16:0/20:1	2.04	0.19

42	DAG-14:0/18:1	1.98	0.03
43	LPA-18:1	1.93	0.10
44	PG-16:1/20:0	1.93	0.20
45	PS-18:1/22:6	1.90	0.07
46	LPS-22:6	1.88	0.20
47	PE-18:2/22:5	1.86	0.02
48	PS-18:1/20:3	1.83	0.17
49	LPS-16:1	1.79	0.07
50	PS-16:0/18:6	1.76	0.06
51	LPC-18:0	1.76	0.07
52	PI-18:0/18:0	1.75	0.19
53	DAG-16:0/18:1	1.73	0.07
54	PA-18:0/20:4	1.72	0.18
55	PG-16:016:1	1.71	0.28
56	CER-18:0	1.70	0.00
57	DAG-16:0/20:3	1.66	0.23
58	PE-16:0/18:1	1.63	0.15
59	PE-18:0/18:2	1.62	0.15
60	LPA-22:6	1.59	0.37
61	LPS-18:1	1.58	0.07
62	PE-16:1/22:4	1.58	0.21
63	PS-18:0/22:5	1.55	0.24
64	PE-18:2/20:3	1.54	0.19
65	SM-22:0	1.51	0.09
66	TAG-16:0/16:0/16:0	1.51	0.09
67	PA-16:0/18:1	1.50	0.14
68	PC-36:0	1.49	0.03
69	PC-36:7	1.45	0.03
70	CE-22:6	1.44	0.28
71	PE-16:1/22:5	1.44	0.07
72	PE-18:1/18:2	1.43	0.14
73	LPA-18:2	1.43	0.33
74	PE-18:0/22:6	1.42	0.15
75	PE-18:0/18:3	1.39	0.14
76	PE-16:1/18:1	1.37	0.25
77	PI-18:0/20:4	1.36	0.29
78	PS-20:1/20:4	1.35	0.35
79	PS-16:0/18:0	1.34	0.32
80	PA-16:0/16:1	1.34	0.27
81	CER-24:0	1.34	0.01
82	PI-16:0/16:0	1.33	0.35
83	PA-16:0/20:1	1.32	0.32
84	PS-18:1/22:5	1.32	0.18
85	PE-16:1/18:2	1.26	0.33

86	CE-20:4	1.26	0.28
87	CER-20:0	1.25	0.16
88	LPS-18:0	1.22	0.37
89	PE-16:0/20:3	1.22	0.17
90	PE-18:0/22:5	1.21	0.21
91	PE-18:1/22:4	1.21	0.25
92	PE-18:2/20:2	1.21	0.41
93	DAG-16:1/18:1	1.20	0.34
94	DAG-18:0/20:4	1.18	0.25
95	PS-17:0/17:0	1.18	0.25
96	PS-16:1/18:1	1.18	0.12
97	PE-16:0/20:4	1.16	0.34
98	PE-18:1/22:5	1.15	0.28
99	PE-18:2/20:1	1.15	0.36
100	PE-18:0/20:4	1.14	0.28
101	PE-16:1/20:2	1.13	0.40
102	PE-16:1/22:6	1.12	0.33
103	PS-20:0/20:4	1.12	0.34
104	LPI-18:1	1.11	0.39
105	PE-18:1/20:2	1.10	0.36
106	PS-18:1/20:4	1.10	0.41
107	PE-18:2/18:2	1.10	0.44
108	PE-18:1/20:3	1.09	0.39
109	PE-14:0/18:1	1.09	0.44
110	TAG-16:0/17:0/18:0	1.09	0.45
111	LPI-18:0	1.09	0.44
112	SM-20:0	1.08	0.41
113	PE-16:0/16:0	1.08	0.39
114	PA-16:1/18:0	1.08	0.30
115	PC-36:1	1.07	0.35
116	PE-16:1/20:4	1.06	0.44
117	PA-18:0/20;3	1.06	0.46
118	PE-18:3/20:1	1.06	0.46
119	TAG-16:1/16:1/16:1	1.05	0.47
120	LPA-20:3	1.05	0.48
121	PI-16:0/20:4	1.05	0.45
122	PE-16:0/22:4	1.04	0.46
123	PS-16:0/16:1	1.03	0.48
124	PC-28:0	1.03	0.41
125	PE-18:1/18:1	1.03	0.46
126	SM-24:0	1.03	0.46
127	DAG-18:1/20:4	1.02	0.49
128	PE-18:0/20:3	1.02	0.48
129	DAG-18:1/18:1	1.01	0.49

130	CER-16:0	1.00	0.50
131	DAG-16:0/18:2	1.00	0.50
132	LPC-22:0	0.99	0.49
133	PG-16:0/18:0	0.98	0.47
134	LPC-18:1	0.97	0.46
135	SM-22:1	0.96	0.45
136	PE-16:1/20:1	0.96	0.45
137	PA-18:0/18:1	0.96	0.42
138	SM-24:1	0.95	0.42
139	PS-18:0/20:3	0.90	0.28
140	SM-20:1	0.89	0.37
141	PA-16:1/18:1	0.89	0.45
142	PS-18:0/20:4	0.88	0.30
143	PE-18:1/22:6	0.88	0.11
144	PG-16:0/18:1	0.88	0.40
145	PE-18:1/20:5	0.87	0.38
146	PE-18:0/22:4	0.87	0.29
147	PE-16:0/20:1	0.86	0.42
148	PA-18:0/18:2	0.85	0.24
149	TAG-16:0/16:1/17:0	0.84	0.36
150	CER-24:1	0.84	0.29
151	PG-16:0/18:0	0.84	0.31
152	PC-36:8	0.84	0.26
153	DAG-18:0/18:2	0.83	0.32
154	PC-30:1	0.82	0.16
155	TAG-14:0/17:0/18:1	0.82	0.30
156	PE-20:0/22:6	0.81	0.34
157	PG-18:0/18:2	0.81	0.36
158	PG-16:0/18:1	0.81	0.34
159	PE-18:1/18:3	0.80	0.27
160	PG-16:1/18:0	0.80	0.39
161	PC-32:1	0.79	0.08
162	PE-16:1/22:2	0.79	0.31
163	PE-18:1/20:4	0.78	0.10
164	PS-16:0/18:2	0.78	0.31
165	SM-18:2	0.77	0.07
166	TAG-18:0/18:0/18:1	0.76	0.32
167	DAG-18:1/18:2	0.76	0.25
168	TAG-16:0/18:0/18:1	0.76	0.27
169	PE-16:0/20:5	0.74	0.34
170	PC-32:3	0.74	0.03
171	PC-34:1	0.73	0.07
172	PG-16:1/18:1	0.73	0.35
173	PG-16:0/18:2	0.73	0.05

174	PS-16:0/18:1	0.72	0.31
175	PA-18:1/18:2	0.72	0.31
176	LPC-24:0	0.71	0.26
177	TAG-16:1/16:1/18:0	0.71	0.07
178	PC-32:2	0.70	0.02
179	LPC-18:0e	0.70	0.07
180	PE-18:0/18:1	0.69	0.15
181	LPC-16:1	0.69	0.22
182	CE-20:5	0.69	0.37
183	TAG-14:0/18:0/18:1	0.68	0.14
184	PC-30:0	0.68	0.02
185	CE-18:2	0.68	0.03
186	PC-30:2	0.66	0.00
187	CE-16:0	0.66	0.27
188	TAG-18:1/18:1/20:4	0.66	0.33
189	TAG-14:0/16:0/18:2	0.65	0.10
190	PC-34:2	0.65	0.01
191	PE-16:1/20:3	0.65	0.21
192	PG-16:0/18:2	0.64	0.06
193	PC-32:0	0.64	0.00
194	PC-28:1	0.63	0.00
195	PE-20:4/22:5	0.63	0.18
196	PC-34:5	0.63	0.03
197	PC-38:2	0.63	0.02
198	TAG-14:0/16:0/18:1	0.63	0.11
199	PE-20:1/20:4	0.62	0.16
200	TAG-16:0/17:0/18:1	0.62	0.24
201	PS-16:0/18:16	0.61	0.04
202	PA-18:1/18:1	0.60	0.11
203	LPC-16:0	0.60	0.05
204	PG-18:1/18:3	0.60	0.31
205	LPC-18:2	0.59	0.07
206	CE-18:0	0.59	0.21
207	PC-36:6	0.59	0.01
208	PC-28:2	0.59	0.00
209	PC-40:5	0.58	0.02
210	PC-40:6	0.58	0.03
211	PC-36:2	0.57	0.01
212	PC-36:3	0.56	0.02
213	PC-33:1	0.54	0.02
214	PC-34:3	0.54	0.00
215	LPC-18:3	0.52	0.18
216	PC-38:3	0.52	0.00
217	PC-40:4	0.52	0.00

218	TAG-18:2/18:2/18:2	0.51	0.02
219	PC-38:7	0.50	0.02
220	TAG-15:0/18:1/18:1	0.49	0.06
221	LPS-20:3	0.49	0.07
222	TAG-15:0/16:0/18:1	0.49	0.16
223	LPC-22:1	0.48	0.15
224	CE-18:1	0.48	0.11
225	PS-16:1/22:4	0.48	0.18
226	LPC-20:0	0.47	0.00
227	TAG-14:1/18:0/18:2	0.47	0.10
228	TAG-14:0/16:1/18:1	0.47	0.11
229	TAG-14:1/16:1/18:0	0.47	0.11
230	PC-34:4	0.47	0.01
231	PC-40:7	0.45	0.00
232	DAG-18:1/20:3	0.44	0.05
233	PC-38:6	0.44	0.00
234	PC-38:4	0.43	0.00
235	PC-36:4	0.42	0.00
236	LPI-20:3	0.41	0.18
237	PC-36:5	0.41	0.01
238	TAG-14:1/16:0/18:1	0.41	0.13
239	TAG-18:1/18:1/22:6	0.41	0.12
240	PC-38:5	0.41	0.00
241	CE-16:1	0.40	0.05
242	TAG-18:0/18:1/18:1	0.40	0.06
243	PG-16:1/20:1	0.40	0.30
244	LPI-20:4	0.39	0.16
245	TAG-16:1/16:1/18:1	0.39	0.02
246	TAG-16:0/16:0/18:2	0.37	0.04
247	TAG-18:1/18:1/18:1	0.36	0.10
248	PG-18:1/18:1	0.35	0.08
249	PG-18:2/18:2	0.34	0.13
250	LPI-20:3	0.34	0.17
251	TAG-16:0/16:1/18:1	0.34	0.04
252	TAG-16:0/18:1/18:1	0.33	0.05
253	PS-18:0/22:4	0.33	0.03
254	TAG-18:1/18:2/18:2	0.33	0.07
255	CE-20:3	0.32	0.05
256	LPI-20:4	0.32	0.15
257	PG-18:1/18:2	0.30	0.16
258	TAG-16:0/18:2/18:2	0.29	0.06
259	PE-18:2/20:4	0.28	0.15
260	LPC-20:3	0.27	0.03
261	LPI-18:2	0.26	0.19

262	TAG-16:0/18:1/18:2	0.26	0.07
263	TAG-16:1/17:0/18:1	0.26	0.05
264	TAG-16:1/18:1/18:2	0.26	0.04
265	TAG-16:1/18:1/18:2	0.26	0.04
266	LPC-20:4	0.25	0.09
267	TAG-18:018:2/18:2	0.24	0.06
268	TAG-18:1/18:1/18:2	0.23	0.03
269	LPI-18:2	0.21	0.18
270	PG-14:0/18:1	0.20	0.14
271	PG-14:0/18:1	0.20	0.16
272	TAG-17:0/18:1/18:1	0.16	0.03
273	TAG-17:0/18:1/18:1	0.16	0.03
274	TAG-14:1/18:1/18:1	0.16	0.07
275	TAG-16:1/18:1/18:1	0.15	0.02
276	TAG-16:0/17:0/18:2	0.15	0.02
277	PG-16:0/20:4	0.00	0.19
278	PG-16:1/20:3	0.00	0.03
279	PG-18:0/18:3	0.00	0.19

VSMCs were treated with 300nM CAY10566 for 24 hours.
Total lipids were extracted using Bligh & Dyer's method and analyzed with LC-MS/MS.
CE; choletseryl ester, DAG; CER; ceramide, diacylglycerol, LPA; lysophosphatidic acid;
LPC; lysophosphatidylcholine, LPE; lysophosphatidiyl ethanolamine,
LPI; lysophosphatidylinsitol, LPS; lysophosphatidylserinePA; phosphatidic acid,
PC; phosphatidylcholine, PE; phosphatidylethanolamine, PG; phosphatidylglycerol
PI; phosphatidylinositol, PS; phosphatidylserine, SM; sphingomyelin; TAG; triacylglycerol,

Supplemental Table IV.
Fold changes of lipid content in the medail layer of aortas from SMC-*Scd1/2* KO mice

Rank		Fold change (vs control)	*P value*
1	PA-18:0/18:0	63.00	0.00
2	PA-16:0/18:0	11.29	0.00
3	PA-14:0/18:0	7.71	0.00
4	PA-16:0/16:0	7.22	0.00
5	PG-16:0/16:0	4.25	0.09
6	PG-16:0/20:1	4.15	0.10
7	PE-16:1/20:0	4.08	0.01
8	LPS-16:0	3.73	0.04
9	LPA-18:0	3.69	0.00
10	LPC-20:0	3.65	0.02
11	DAG-16:0/18:0	3.55	0.01
12	PE-16:1/22:4	3.35	0.01
13	LPS-16:1	3.19	0.18
14	LPI-18:0	3.10	0.05
15	PI-16:0/16:0	3.02	0.07
16	TAG-16:0/17:0/18:0	2.95	0.09
17	PG-16:1/18:0	2.93	0.20
18	PS-16:1/18:0	2.75	0.06
19	PE-20:0/20:4	2.50	0.03
20	DAG-16:1/18:0	2.44	0.02
21	LPI-18:2	2.39	0.15
22	CE-20:5	2.34	0.09
23	PS-16:0/18:6	2.29	0.06
24	LPS-22:6	2.28	0.02
25	PS-16:1/22:4	2.22	0.08
26	PS-18:0/22:4	2.17	0.10
27	DAG-18:0/18:1	2.16	0.00
28	CER-18:0	2.15	0.01
29	PS-18:1/20:4	2.13	0.18
30	PG-16:0/18:1	2.12	0.23
31	DAG-14:0/18:0	2.09	0.05
32	PS-18:1/22:4	2.05	0.26
33	PS-16:0/18:0	2.02	0.24
34	PA-16:0/20:1	2.00	0.13
35	PG-18:0/18:2	1.97	0.18
36	DAG-16:0/16:0	1.90	0.01
37	DAG-18:0/18:0	1.90	0.09
38	PS-16:0/18:2	1.86	0.10
39	PE-18:0/22:6	1.85	0.01
40	LPI-18:1	1.84	0.20
41	LPI-20:3	1.83	0.16
42	PG-16:016:1	1.82	0.29
43	PE-18:2/20:4	1.82	0.20
44	PS-18:1/22:6	1.81	0.15

45	LPC-16:0e	1.79	0.12
46	SM-22:0	1.78	0.00
47	PE-16:0/22:6	1.75	0.21
48	TAG-16:0/16:0/18:0	1.75	0.20
49	PE-16:0/20:1	1.74	0.14
50	LPE-18:0	1.70	0.21
51	LPA-16:0	1.70	0.04
52	TAG-18:0/18:0/18:0	1.69	0.12
53	PA-16:1/18:0	1.69	0.03
54	PG-16:1/20:1	1.63	0.34
55	PS-16:0/16:1	1.63	0.04
56	CER-24:0	1.61	0.03
57	CE-18:0	1.61	0.27
58	LPC-18:0	1.59	0.03
59	LPC-16:1	1.58	0.12
60	PS-20:0/20:4	1.56	0.19
61	PI-18:0/18:0	1.56	0.19
62	LPI-20:4	1.55	0.21
63	PE-16:0/18:0	1.54	0.08
64	LPC-22:0	1.53	0.23
65	PE-16:0/20:4	1.52	0.08
66	DAG-18:1/20:4	1.49	0.24
67	LPE-18:1	1.46	0.32
68	PS-18:0/20:4	1.44	0.27
69	CE-16:0	1.44	0.19
70	PE-18:0/18:2	1.41	0.04
71	SM-16:0	1.41	0.07
72	PS-18:1/22:5	1.41	0.06
73	PE-16:1/20:3	1.41	0.19
74	PE-16:1/18:0	1.40	0.09
75	PG-16:0/18:2	1.39	0.36
76	LPA-20:3	1.38	0.39
77	PC-36:0	1.36	0.01
78	PI-16:0/20:4	1.34	0.36
79	PE-16:0/16:0	1.34	0.15
80	PE-18:0/22:5	1.30	0.15
81	PE-18:1/22:5	1.29	0.04
82	PE-18:1/22:6	1.29	0.26
83	PE-18:0/20:4	1.28	0.13
84	PE-18:2/20:3	1.28	0.30
85	SM-18:0	1.28	0.06
86	TAG-16:0/16:0/16:0	1.27	0.33
87	PA-18:0/18:1	1.27	0.16
88	SM-20:0	1.27	0.00
89	PG-16:0/18:0	1.25	0.41
90	PI-18:0/20:4	1.22	0.25
91	LPC-24:0	1.21	0.25

92	PE-18:0/18:1	1.20	0.14
93	PE-16:1/20:2	1.20	0.33
94	PE-18:0/18:3	1.20	0.33
95	PS-16:1/18:1	1.19	0.36
96	PC-36:7	1.19	0.05
97	DAG-18:0/18:2	1.19	0.28
98	PE-16:1/22:5	1.18	0.32
99	PE-16:0/18:1	1.17	0.21
100	CE-20:3	1.17	0.43
101	PE-16:0/16:1	1.16	0.32
102	PE-18:0/20:5	1.16	0.41
103	LPC-18:0e	1.15	0.32
104	LPS-18:0	1.14	0.35
105	SM-22:1	1.13	0.09
106	PE-16:0/20:3	1.12	0.37
107	PA-18:0/18:2	1.12	0.32
108	SM-18:1	1.12	0.22
109	PE-18:2/22:5	1.12	0.33
110	CE-20:4	1.12	0.35
111	SM-24:0	1.11	0.18
112	PE-16:0/18:2	1.09	0.33
113	PE-16:1/20:1	1.08	0.29
114	PC-36:1	1.07	0.23
115	SM-24:1	1.07	0.27
116	LPC-18:1	1.07	0.43
117	PE-16:0/22:4	1.07	0.46
118	PE-18:0/20:3	1.06	0.41
119	PC-28:0	1.06	0.25
120	PE-18:1/18:1	1.06	0.40
121	PA-16:0/18:1	1.06	0.38
122	LPC-16:0	1.06	0.41
123	PE-18:1/20:5	1.06	0.46
124	DAG-14:0/18:1	1.05	0.38
125	TAG-14:0/18:0/18:1	1.04	0.46
126	LPC-18:3	1.04	0.47
127	PE-20:0/22:6	1.03	0.48
128	LPA-18:2	1.02	0.49
129	PE-18:0/22:4	1.00	0.49
130	PI-18:0/20;3	1.00	0.50
131	PA-18:0/20:3	1.00	0.50
132	DAG-18:0/20:4	1.00	0.49
133	PS-16:0/18:1	1.00	0.50
134	TAG-16:0/18:0/18:1	0.99	0.50
135	PE-18:2/20:2	0.98	0.49
136	PG-16:1/18:1	0.98	0.49
137	PS-16:0/18:1	0.98	0.49
138	SM-20:1	0.97	0.41

139	PC-36:8	0.93	0.29
140	PE-16:1/22:2	0.93	0.40
141	PG-16:0/20:3	0.92	0.47
142	PS-18:1/20:3	0.92	0.45
143	CE-18:2	0.91	0.42
144	DAG-16:0/18:1	0.89	0.20
145	PS-18:0/20:3	0.89	0.43
146	PE-18:1/22:4	0.87	0.23
147	PE-16:1/18:2	0.86	0.15
148	CE-22:6	0.86	0.38
149	CER-20:0	0.85	0.08
150	PE-20:4/22:5	0.85	0.40
151	PA-18:0/20:4	0.84	0.26
152	SM-18:2	0.83	0.17
153	PE-18:3/20:0	0.83	0.38
154	PE-16:0/20:2	0.82	0.29
155	TAG-16:0/16:1/17:0	0.81	0.32
156	LPS-18:1	0.80	0.26
157	PS-20:1/20:4	0.80	0.39
158	PE-16:0/18:3	0.79	0.26
159	PE-18:1/20:2	0.79	0.26
160	PE-14:0/18:1	0.78	0.32
161	PG-18:1/18:1	0.78	0.37
162	PS-16:1/18:0	0.78	0.40
163	PE-18:1/20:3	0.77	0.10
164	LPC-20:3	0.77	0.16
165	PG-18:1/18:2	0.76	0.37
166	CE-18:1	0.76	0.18
167	PE-18:2/18:2	0.76	0.37
168	LPE-16:0	0.74	0.42
169	PE-16:1/22:6	0.74	0.32
170	PS-16:0/16:0	0.73	0.37
171	PS-18:0/22:5	0.73	0.32
172	PE-16:1/20:4	0.72	0.32
173	LPC-22:1	0.71	0.16
174	PC-32:1	0.71	0.01
175	PC-34:1	0.70	0.00
176	PE-18:3/20:1	0.70	0.10
177	TAG-18:0/18:0/18:1	0.69	0.17
178	PE-18:1/18:3	0.69	0.20
179	PA-18:1/18:2	0.69	0.14
180	PE-16:1/18:1	0.69	0.03
181	PE-18:1/20:4	0.68	0.09
182	CER-24:1	0.68	0.03
183	DAG-16:1/18:1	0.68	0.04
184	PC-30:1	0.67	0.03
185	PC-30:0	0.67	0.05

186	PE-18:1/18:2	0.66	0.05
187	PE-20:1/20:4	0.65	0.09
188	PC-32:3	0.65	0.03
189	TAG-18:0/18:1/18:1	0.65	0.16
190	PC-28:2	0.63	0.01
191	PC-40:6	0.62	0.00
192	DAG-18:1/18:2	0.62	0.10
193	CER-16:0	0.62	0.15
194	PC-30:2	0.61	0.00
195	PC-36:2	0.60	0.00
196	PC-34:2	0.59	0.00
197	DAG-16:0/18:2	0.59	0.07
198	PC-32:2	0.59	0.00
199	PE-18:2/20:1	0.59	0.12
200	PC-38:2	0.59	0.00
201	TAG-16:1/16:1/18:0	0.58	0.21
202	PC-32:0	0.58	0.00
203	DAG-18:1/18:1	0.57	0.00
204	PC-34:5	0.57	0.00
205	TAG-16:0/17:0/18:1	0.56	0.15
206	PC-33:1	0.56	0.00
207	PC-40:5	0.56	0.00
208	TAG-14:0/16:0/18:1	0.56	0.08
209	LPA-18:1	0.56	0.23
210	PC-36:3	0.55	0.00
211	PC-28:1	0.55	0.00
212	PA-18:1/18:1	0.55	0.00
213	DAG-16:0/20:3	0.52	0.08
214	LPS-18:2	0.51	0.18
215	PC-34:3	0.50	0.00
216	PC-38:6	0.49	0.00
217	TAG-17:0/18:1/18:1	0.49	0.22
218	TAG-17:0/18:1/18:1	0.49	0.22
219	PC-36:6	0.48	0.00
220	LPS-20:3	0.47	0.02
221	PE-16:0/22:5	0.46	0.13
222	PC-38:3	0.46	0.00
223	PC-36:5	0.46	0.00
224	TAG-14:1/18:0/18:2	0.45	0.12
225	LPA-20:5	0.45	0.08
226	LPC-18:2	0.44	0.06
227	TAG-15:0/16:0/18:1	0.44	0.01
228	TAG-14:1/16:1/18:0	0.44	0.12
229	LPA-16:1	0.43	0.03
230	TAG-14:0/16:0/18:2	0.43	0.01
231	PC-38:7	0.43	0.00
232	PC-38:5	0.42	0.00

233	PG-16:1/20:3	0.42	0.14
234	DAG-18:1/20:3	0.42	0.01
235	PC-40:7	0.42	0.00
236	TAG-16:1/17:0/18:1	0.42	0.06
237	PG-18:2/18:2	0.42	0.10
238	PE-16:1/16:1	0.42	0.01
239	TAG-16:0/18:2/18:2	0.42	0.10
240	TAG-16:0/16:0/18:2	0.41	0.12
241	PC-38:4	0.40	0.00
242	PC-40:4	0.39	0.00
243	CE-16:1	0.39	0.02
244	TAG-14:1/16:0/18:1	0.37	0.11
245	PC-36:4	0.36	0.00
246	TAG-14:0/17:0/18:1	0.36	0.09
247	TAG-16:1/16:1/18:1	0.32	0.01
248	TAG-16:0/17:0/18:2	0.31	0.02
249	PA-16:1/18:1	0.31	0.01
250	PC-34:4	0.31	0.00
251	PG-14:0/18:1	0.29	0.11
252	PG-18:1/18:3	0.28	0.14
253	TAG-16:1/18:1/18:2	0.27	0.07
254	TAG-16:1/18:1/18:2	0.27	0.07
255	LPC-20:4	0.27	0.01
256	TAG-16:0/18:1/18:1	0.27	0.00
257	TAG-16:0/18:1/18:2	0.26	0.00
258	TAG-18:1/18:1/22:6	0.24	0.01
259	TAG-16:0/16:1/18:1	0.24	0.01
260	TAG-18:018:2/18:2	0.24	0.01
261	TAG-18:1/18:1/18:2	0.23	0.03
262	TAG-14:0/16:1/18:1	0.23	0.02
263	TAG-18:1/18:2/18:2	0.19	0.05
264	TAG-16:1/18:1/18:1	0.19	0.01
265	TAG-18:1/18:1/20:4	0.18	0.07
266	TAG-18:1/18:1/18:1	0.18	0.01
267	TAG-15:0/18:1/18:1	0.16	0.04
268	TAG-16:1/16:1/16:1	0.13	0.05
269	TAG-14:1/18:1/18:1	0.13	0.00
270	TAG-18:2/18:2/18:2	0.11	0.02
271	PE-16:0/20:5	0.10	0.05
272	LPA-22:6	0.00	0.19
273	CE-22:1	0.00	0.07

Mice were sacrificed at 18-week-old. Total lipids in the aortic media were extracted by Bligh & Dyer's Method and were analyzed with LC-MS/MS.
CE; choletseryl ester, DAG; CER; ceramide, diacylglycerol, LPA; lysophosphatidic acid; LPC; lysophosphatidylcholine, LPE; lysophosphatidiyl ethanolamine, LPI; lysophosphatidylinsitol, LPS; lysophosphatidylserinePA; phosphatidic acid, PC; phosphatidylcholine, PE; phosphatidylethanolamine, PG; phosphatidylglycerol

Supplemental Table V. qPCR primer list

Gene	Primer Bank ID	Forward	Reverse
Acat1	26344029a1	GAAACCGGCTGTCAAAATCTGG	TGTGACCATTTCTGTATGTGTCC
Acat2	22122547a1	ACAAGACAGACCTCTTCCCTC	ATGGTTCGGAAATGTTGCACC
Agpat1	26352009a1	TAAGATGGCCTTCTACAACGGC	CCATACAGGTATTTGACGTGGAG
Agpat2	23956162a1	CAGCCAGGTTCTACGCCAAG	TGATGCTCATGTTATCCACGGT
Agpat3	27229278a1	CTGCTTGCCTACCTGAAGACC	GATACGGCGGTATAGGTGCTT
Agpat4	27229064a1	CCAGTTTCTATGTCACCTGGTC	GCAGAGTCTGGCATTGATCTTG
Agpat5	27229077a1	CACACGTACTCTATGCGCTAC	AAGAAGAGCACCATGTTCTGG
Alp	6671533a1	CCAACTCTTTTGTGCCAGAGA	GGCTACATTGGTGTTGAGCTTTT
Atf3	31542154a1	GAGGATTTTGCTAACCTGACACC	TTGACGGTAACTGACTCCAGC
Atf4	6753128a1	ATGGCGCTCTTCACGAAATC	ACTGGTCGAAGGGGTCATCAA
Awat1	124487272c3	AGAGTGTGCCTAACACCACC	CCGAACGTGAAGGTAGGGAC
Awat2	29244232a1	TTGACTGGAAGACCCCTGAG	TCACCATCTTGAGTGGGAAGTA
Chop	31982415a1	CTGGAAGCCTGGTATGAGGAT	CAGGGTCAAGAGTAGTGAAGGT
Dgat1	6753632a1	TCCGTCCAGGGTGGTAGTG	TGAACAAAGAATCTTGCAGACGA
Dgat2	16975490a1	GCGCTACTTCCGAGACTACTT	GGGCCTTATGCCAGGAAACT
Gadd34	6678978a1	GAGGGACGCCCACAACTTC	TTACCAGAGACAGGGGTAGGT
Gpat1	6680057a1	ACAGTTGGCACAATAGACGTTT	CCTTCCATTTCAGTGTTGCAGA
Gpat2	26334109a1	CACTGCTCCGAGGTTTTGATG	AGGTTGGCAGCAATTCCATAC
Gpat3	27370046a1	GGCCTTCGGATTATCCCTGG	CTTGGGGGCTCCTTTCTGAA
Gpat4	30520301a1	AGCTTGATTGTCAACCTCCTG	CCGTTGGTGTAGGGCTTGT
GPAT4	224451051c2	GGTTAGGAGTGCTGATTCGGT	CCAGAAGGCTAATCCCTGTGAA
Lclat1	295789099c1	TTTTATGCTCGGCCCCATTTT	CACAAGACGGCTGCTAATCCA
Lipin1	27923911a1	CTCCGCTCCCGAGAGAAAG	TCATGTGCAAATCCACGGACT
Lipin2	31543129a1	GAAGTGGCGGCTCTCTATTTC	AGAGGGTTACATCAGGCAAGT
LIPIN2	22027649c1	TCTACAAGGGCATTAACCAGGC	AACGTGAAAAGGTGAACACTGA
Lipin3	12584972a1	CAAACCTCGTGGTGAAAATCAAC	CCACAGTGCTCTCAGGTAAGT
Lpcat1	31542186a1	GGCTCCTGTTCGCTGCTTT	TTCACAGCTACACGGTGGAAG
Lpcat2	27370522a1	CCCTTCGTCCAGCAGACTAC	GCAGCAAAATTATTCCAACCAGT
Lpcat3	21699058a1	GACGGGGACATGGGAGAGA	GTAAAACAGAGCCAACGGGTAG
Lpcat4	227496911c3	CTCATCCGATACCCCAACAGT	GGGAGGAACTCTACATCCACG
Mboat1	23956314a1	AGCCTCTCTTACCGTACCACC	GGCTGGCTTTACCAGGATGTA
Mboat2	12849991a1	TCAGACACGTAGTTGCTACCC	TGCAGTAGGAAATCCCACTTTG
Mboat7	31542014a1	TACCGCACCTACCTGGATTG	AGAAGACCGGGATCATGTAGAA
Mogat1	18426805a1	TGGTGCCAGTTTGGTTCCAG	TGCTCTGAGGTCGGGTTCA
Mogat2	28974982a1	TGGGAGCGCAGGTTACAGA	CAGGTGGCATACAGGACAGA
Ocn	N/A	GCAATAAGGTAGTGAACAGACTCC	GTTTGTAGGCGGTCTTCAAGC
Opn	6678113a1	AGCAAGAAACTCTTCCAAGCAA	GTGAGATTCGTCAGATTCATCCG
PiT1	7657579a1	TTTGACAAACTTCCTCTGTGGG	GGACTTTCAGACGGACTAGACTT
SCD	53759150c1	TCTAGCTCCTATACCACCACCA	TCGTCTCCAACTTATCTCCTCC
Scd1	31543675a1	TTCTTGCGATACACTCTGGTGC	CGGGATTGAATGTTCTTGTCGT
Scd2	6677863a1	GCATTTGGGAGCCTTGTACG	AGCCGTGCCTTGTATGTTCTG
Scd3	13277368a1	GTTGCCACTTTACTGAGATACGC	GAAGCCCTCGCCCATACTT
Scd4	34147292a1	GCCCACTTGCCACAAGAGAT	GTAGCTGGGGTCATACAGATCA
SCD5	148596960c1	TGCGACGCCAAGGAAGAAAT	CCTCCAGACGATGTTCTGCC
Sm22	6755714a1	CAACAAGGGTCCATCCTACGG	ATCTGGGCGGCCTACATCA
Smmhc	1945078a1	GAGCAAACTCAGGAGAGGAAAC	GTCCCGAGCGTCCATTTCTTC

Sptlc1	29244577a1	ACGAGGCTCCAGCATACCAT	TCAGAACGCTCCTGCAACTTG
Sptlc2	6755656a1	AACGGGGAAGTGAGGAACG	CAGCATGGGTGTTTCTTCAAAAG
sXBP-1	N/A	GAGTCCGCAGCAGGTG	GTGTCAGAGTCCATGGGA
TetR	N/A	TGCTTAATGAGGTCGGAATCG	ATCTCAATGGCTAAGGCGTC

The primers for Ocn, sXBP-1 and TetR were designed in the laboratory.

Supplemental Table VI. 3200-Qtrpa spectrometer settings for lipidomic analysis

Lipid Name		Q1 m/z	Q3 m/z	DP	CE	EP	CXP	CEP
	14:0	404.389225	369.3	20	20	3	5	70
CE	14:1	402.373325	369.3	20	20	3	5	70
CE	15:0	628.6032	369.3	20	20	3	5	70
CE	15:1	626.5873	369.3	20	20	3	5	70
CE	16:0	642.6189	369.3	20	20	3	5	70
CE	16:1	640.603	369.3	20	20	3	5	70
CE	17:0	656.6345	369.3	20	20	3	5	70
CE	17:1	654.6186	369.3	20	20	3	5	70
CE	18:0	670.6502	369.3	20	20	3	5	70
CE	18:1	668.6345	369.3	20	20	3	5	70
CE	18:1	669.6345	370.3	20	20	3	5	70
CE	18:2	666.6189	369.3	20	20	3	5	70
CE	18:2	668.6	371.3	20	20	3	5	70
CE	18:3	664.6032	369.3	20	20	3	5	70
CE	18:3	665.6032	370.3	20	20	3	5	70
CE	20:0	698.6815	369.3	20	20	3	5	70
CE	20:1	696.6658	369.3	20	20	3	5	70
CE	20:2	694.6502	369.3	20	20	3	5	70
CE	20:3	692.6345	369.3	20	20	3	5	70
CE	20:4	690.6189	369.3	20	20	3	5	70
CE	20:4	690.6189	369.3	20	20	3	5	70
CE	20:4	692.6189	371.3	20	20	3	5	70
CE	20:5	688.6032	369.3	20	20	3	5	70
CE	20:5	670.6032	371.3	20	20	3	5	70
CE	22:0	726.7128	369.3	20	20	3	5	70
CE	22:1	724.6969	369.3	20	20	3	5	70
CE	22:2	722.6815	369.3	20	20	3	5	70
CE	22:4	718.6502	369.3	20	20	3	5	70
CE	22:5	716.6502	369.3	20	20	3	5	70
CE	22:6	714.6183	369.3	20	20	3	5	70
LPC	13:0	454.3	184.1	50	35	5	3	20
LPC	13:0	455.3	185.1	50	35	5	3	20
LPC	16:0e	482.3	184.1	50	35	5	3	20
LPC	16:1	494.3	184.1	50	35	5	3	20
LPC	16:0	496.3	184.1	50	35	5	3	20
LPC	16:0	497.3	185.1	50	35	5	3	20
LPC	18:2	520.3	184.1	50	35	5	3	20
LPC	18:3	518.3	184.1	50	35	5	3	20
LPC	18:1	522.4	184.1	50	35	5	3	20
LPC	18:0	524.4	184.1	50	35	5	3	20
LPC	18:0e	510.3	184.1	50	35	5	3	20
LPC	20:0	552.4	184.1	50	35	5	3	20
LPC	o-20:0	538.4	104.1	50	35	5	3	20
LPC	22:0	580.4	184.1	50	35	5	3	20
LPC	o-22:0	566.5	104.1	50	35	5	3	20

LPC	22:1	578.4	184.1	50	35	5	3	20
LPC	20:3	546.4	184.1	50	35	5	3	20
LPC	20:4	544.3	184.1	50	35	5	3	20
LPC	20:5	542.3	184.1	50	35	5	3	20
LPC	22:6	568.3	184.1	50	35	5	3	20
LPC	24:0	608.5	184.1	50	35	5	3	20
LPC	o-24:0	594.5	104.1	50	35	5	3	20
LPC	o-24:1	592.5	104.1	50	35	5	3	20
LPC	o-24:2	590.5	104.1	50	35	5	3	20
LPS	13:0	456.2	271.2	25	25	5	4	16
LPS	16:1	496.3	311.3	25	25	5	4	16
LPS	16:0	498.3	313.3	25	25	5	4	16
LPS	18:2	522.3	337.3	25	25	5	4	16
LPS	18:1	524.3	339.3	25	25	5	4	16
LPS	18:0	546.3	341.3	25	25	5	4	16
LPS	20:3	528.3	343.3	25	25	5	4	16
LPS	20:4	526.3	341.3	25	25	5	4	16
LPS	20:5	524.3	339.3	25	25	5	4	16
LPS	22:6	570.3	341.3	25	25	5	4	16
LPG	13:0	443.3	254.3	20	20	8	4	15
LPG	16:1	483.3	294.3	20	20	8	4	15
LPG	16:0	485.3	296.3	20	20	8	4	15
LPG	18:2	509.3	320.3	20	20	8	4	15
LPG	18:1	511.3	322.3	20	20	8	4	15
LPG	18:0	513.3	324.3	20	20	8	4	15
LPG	20:3	535.3	346.3	20	20	8	4	15
LPG	20:4	533.3	344.3	20	20	8	4	15
LPG	20:5	531.3	342.3	20	20	8	4	15
LPG	22:6	557.3	368.3	20	20	8	4	15
LPI	13:0	548	241	18	30	3	3	20
LPI	16:1	586	241	18	30	3	3	20
LPI	16:0	588	241	18	30	3	3	20
LPI	18:2	614	241	18	30	3	3	20
LPI	18:1	616	241	18	30	3	3	20
LPI	18:0	618	241	18	30	3	3	20
LPI	20:3	640	241	18	30	3	3	20
LPI	20:4	638	241	18	30	3	3	20
LPI	20:5	636	241	18	30	3	3	20
LPI	22:6	662	241	18	30	3	3	20
LPI	13:0	548	271	10	30	3	3	20
LPI	16:1	586	309	10	30	3	3	20
LPI	16:0	588	311	10	30	3	3	20
LPI	18:2	614	337	10	30	3	3	20
LPI	18:1	616	339	10	30	3	3	20
LPI	18:0	618	341	10	30	3	3	20
LPI	20:3	640	363	10	30	3	3	20
LPI	20:4	638	361	10	30	3	3	20

LPI	20:5	636	359	10	30	3	3	20
LPI	22:6	662	385	10	30	3	3	20
LPA	16:1	426.2	155	20	25	3	2	10
LPA	16:0	428.2	155	20	25	3	2	10
LPA	17:0	442.3	155	20	25	3	2	10
LPA	18:2	452.3	155	20	25	3	2	10
LPA	18:1	454.3	155	20	25	3	2	10
LPA	18:0	456.3	155	20	25	3	2	10
LPA	20:3	468.3	155	20	25	3	2	10
LPA	20:4	476.3	155	20	25	3	2	10
LPA	20:5	454.3	155	20	25	3	2	10
LPA	22:6	483.3	155	20	25	3	2	10
LPE	13:0	412.2	271.2	25	20	4	3	15
LPE	16:0e	440.3	299.3	25	20	4	3	15
LPE	16:1	452.3	311.3	25	20	4	3	15
LPE	16:0	454.3	313.3	25	20	4	3	15
LPE	18:2	478.3	337.3	25	20	4	3	15
LPE	18:3	476.3	335.3	25	20	4	3	15
LPE	18:1	480.3	339.3	25	20	4	3	15
LPE	18:0	482.3	341.3	25	20	4	3	15
LPE	18:0e	468.3	327.3	25	20	4	3	15
LPE	20:0	510.3	369.3	25	20	4	3	15
LPE	20:3	504.3	363.3	25	20	4	3	15
LPE	20:4	502.3	361.3	25	20	4	3	15
LPE	20:5	500.3	359.3	25	20	4	3	15
LPE	22:6	530.3	389.3	25	20	4	3	15
CER	12:0	482.6	264.4	40	35	5	3	25
CER	16:0	538.7	264.4	40	35	5	3	25
CER	18:0	566.7	264.4	40	35	5	3	25
CER	20:0	594.7	264.4	40	35	5	3	25
CER	24:1	648.9	264.4	40	35	5	3	25
CER	24:0	650.9	264.4	40	35	5	3	25
DHCer	16:0	540.7	266.4	40	35	5	3	25
DHCer	18:0	568.7	266.4	40	35	5	3	25
DHCer	24:1	650.9	266.4	40	35	5	3	25
DHCer	24:0	652.9	266.4	40	35	5	3	25
GlcCre	12:0	644.6	264.4	35	45	5	3	25
GlcCre	16:0	700.7	264.4	35	45	5	3	25
GlcCre	18:0	728.7	264.4	35	45	5	3	25
GlcCre	20:0	756	264.4	35	45	5	3	25
GlcCre	22:0	784	264.4	35	45	5	3	25
GlcCre	24:1	810.9	264.4	35	45	5	3	25
GlcCre	24:0	812	264.4	35	45	5	3	25
Cer1P	12:0	562.6	264.4	40	45	5	3	25
Cer1P	16:0	618.7	264.4	40	45	5	3	25
Cer1P	24:0	730.9	264.4	40	45	5	3	25
DHCer1P	12:0	564.6	266.4	40	45	5	3	25

DHCer1P	24:0	732.9	266.4	40	45	5	3	25
SM	12:0	647.7	184.1	55	40	5	3	30
SM	16:0	703.4	184.1	55	40	5	3	30
SM	18:0	731.4	184.1	55	40	5	3	30
SM	18:1	729.4	184.1	55	40	5	3	30
SM	18:2	727.4	184.1	55	40	5	3	30
SM	20:1	757.4	184.1	55	40	5	3	30
SM	20:0	759.4	184.1	55	40	5	3	30
SM	22:1	785.4	184.1	55	40	5	3	30
SM	22:0	788	184.1	55	40	5	3	30
SM	24:1	813.4	184.1	55	40	5	3	30
SM	24:0	815	184.1	55	40	5	3	30
DHSM	18:0	733.8	184.1	55	40	5	3	30
DHSM	24:0	817.9	184.1	55	40	5	3	30
PC	24:0	622.5	184.1	60	40	7	3	30
PC	26:0	650.5	184.1	60	40	7	3	30
PC	28:0	678.5	184.1	60	40	7	3	30
PC	28:1	675.5	184.1	60	40	7	3	30
PC	28:2	674.5	184.1	60	40	7	3	30
PC	30:0	706.5	184.1	60	40	7	3	30
PC	30:1	704.5	184.1	60	40	7	3	30
PC	30:2	702.5	184.1	60	40	7	3	30
PC	32:0	734.5	184.1	60	40	7	3	30
PC	32:1	732.5	184.1	60	40	7	3	30
PC	32:2	730.5	184.1	60	40	7	3	30
PC	32:3	728.5	184.1	60	40	7	3	30
PC	33:1	746.5	184.1	60	40	7	3	30
PC	34:0	762.5	184.1	60	40	7	3	30
PC	34:1	760.5	184.1	60	40	7	3	30
PC	34:2	758.5	184.1	60	40	7	3	30
PC	34:3	756.5	184.1	60	40	7	3	30
PC	34:4	754.5	184.1	60	40	7	3	30
PC	34:5	752.5	184.1	60	40	7	3	30
PC	36:0	790.5	184.1	60	40	7	3	30
PC	36:1	788.5	184.1	60	40	7	3	30
PC	36:2	786.5	184.1	60	40	7	3	30
PC	36:3	784.5	184.1	60	40	7	3	30
PC	36:4	782.5	184.1	60	40	7	3	30
PC	36:5	780.5	184.1	60	40	7	3	30
PC	36:6	778.5	184.1	60	40	7	3	30
PC	36:7	776.5	184.1	60	40	7	3	30
PC	36:8	774.5	184.1	60	40	7	3	30
PC	38:2	814.5	184.1	60	40	7	3	30
PC	38:3	812.5	184.1	60	40	7	3	30
PC	38:4	810.5	184.1	60	40	7	3	30
PC	38:5	808.5	184.1	60	40	7	3	30
PC	38:6	806.5	184.1	60	40	7	3	30

PC	38:7	804.5	184.1	60	40	7	3	30
PC	40:4	838.5	184.1	60	40	7	3	30
PC	40:5	836.5	184.1	60	40	7	3	30
PC	40:6	838.5	184.1	60	40	7	3	30
PC	40:7	836.5	184.1	60	40	7	3	30
PC	o-30:0	692.5	184.1	60	40	7	3	30
PC	o-32:0	720.5	184.1	60	40	7	3	30
PC	o-32:1	718.5	184.1	60	40	7	3	30
PC	o-32:2	716.5	184.1	60	40	7	3	30
PC	o-34:0	748.5	184.1	60	40	7	3	30
PC	o-34:1	746.5	184.1	60	40	7	3	30
PC	o-34:2	744.5	184.1	60	40	7	3	30
PC	o-34:3	742.5	184.1	60	40	7	3	30
PC	o-34:4	740.5	184.1	60	40	7	3	30
PC	o-36:0	776.5	184.1	60	40	7	3	30
PC	o-36:1	774.5	184.1	60	40	7	3	30
PC	o-36:2	772.5	184.1	60	40	7	3	30
PC	o-36:3	770.5	184.1	60	40	7	3	30
PC	o-36:4	768.5	184.1	60	40	7	3	30
PC	o-36:5	766.5	184.1	60	40	7	3	30
PC	o-38:4	795.3	184.1	60	40	7	3	30
PC	o-38:5	793.5	184.1	60	40	7	3	30
PC	o-38:6	791.5	184.1	60	40	7	3	30
PC	o-40:6	820.5	184.1	60	40	7	3	30
PC	o-40:7	818.5	184.1	60	40	7	3	30
PC	30p:0	690.5	184.1	60	40	7	3	30
PC	32p:0	718.5	184.1	60	40	7	3	30
PC	32p:1	716.5	184.1	60	40	7	3	30
PC	34p:0	746.5	184.1	60	40	7	3	30
PC	34p:1	744.5	184.1	60	40	7	3	30
PC	34p:2	742.5	184.1	60	40	7	3	30
PC	34p:3	740.5	184.1	60	40	7	3	30
PC	36p:0	774.5	184.1	60	40	7	3	30
PC	36p:1	772.5	184.1	60	40	7	3	30
PC	36p:2	770.5	184.1	60	40	7	3	30
PC	36p:3	768.5	184.1	60	40	7	3	30
PC	36p:4	766.5	184.1	60	40	7	3	30
PC	36p:5	764.5	184.1	60	40	7	3	30
PC	38p:4	794.5	184.1	60	40	7	3	30
PC	38p:5	792.5	184.1	60	40	7	3	30
PC	38p:6	790.5	184.1	60	40	7	3	30
PC	40p:5	820.5	184.1	60	40	7	3	30
PC	40p:6	818.5	184.1	60	40	7	3	30
PE	17:0/17:0	720.6	579.6	50	18	5	7	20
PE	32:2	688.5	547.5	50	18	5	7	20
PE	32:1	690.5	549.5	50	18	5	7	20
PE	32:0	692.5	551.5	50	18	5	7	20

PE	34:0	720.5	579.5	50	18	5	7	20
PE	34:1	718.5	577.5	50	18	5	7	20
PE	34:2	716.5	575.5	50	18	5	7	20
PE	34:3	714.5	573.5	50	18	5	7	20
PE	35:1	732.5	591.5	50	18	5	7	20
PE	35:2	730.5	589.5	50	18	5	7	20
PE	36:5	738.5	597.5	50	18	5	7	20
PE	36:4	740.5	599.5	50	18	5	7	20
PE	36:3	742.5	601.5	50	18	5	7	20
PE	36:2	744.5	603.5	50	18	5	7	20
PE	36:1	746.5	605.5	50	18	5	7	20
PE	38:7	762.5	621.5	50	18	5	7	20
PE	38:6	764.5	623.5	50	18	5	7	20
PE	38:5	766.5	625.5	50	18	5	7	20
PE	38:4	768.5	627.5	50	18	5	7	20
PE	38.3	770.5	629.5	50	18	5	7	20
PE	40:7	790.5	649.5	50	18	5	7	20
PE	40:6	792.5	651.5	50	18	5	7	20
PE	40:5	794.5	653.5	50	18	5	7	20
PE	40:4	796.5	655.5	50	18	5	7	20
PE	42p:3	810.5	669.5	50	18	5	7	20
PE	42p:2	812.5	671.5	50	18	5	7	20
PE	42:9	814.5	673.5	50	18	5	7	20
PE	42:8	816.5	675.5	50	18	5	7	20
PE	42:7	818.5	677.5	50	18	5	7	20
PE	42:6	820.5	679.5	50	18	5	7	20
PE	34p:2 (16:0/18:2)	700.5	559.5	50	18	5	7	20
PE	34p:1 (16:0/18:1)	702.5	561.5	50	18	5	7	20
PE	36p:4 (16:0/20:4)	724.5	583.5	50	18	5	7	20
PE	36p:3 (16:0/20:3)	726.5	585.5	50	18	5	7	20
PE	36p:2 (18:0/18:2)	728.5	587.5	50	18	5	7	20
PE	36p:1 (18:0/18:1)	730.5	589.5	50	18	5	7	20
PE	38p:6 (16:0/22:6)	748.5	607.5	50	18	5	7	20
PE	38p:5 (16:0/22:5)	750.5	609.5	50	18	5	7	20
PE	38p:4 (18:0/20:4)	752.5	611.5	50	18	5	7	20
PE	40p:6 (18:0/22:6)	776.5	635.5	50	18	5	7	20
PE	40p:5 (18:0/22:5)	778.5	637.5	50	18	5	7	20
PE	40p:4 (20:0/20:4)	780.5	639.5	50	18	5	7	20
PE	34o:1	704.6	563.6	50	18	5	7	20
PE	34o:2	702.5	561.5	50	18	5	7	20
PE	36o:1	732.5	591.5	50	18	5	7	20
PE	36o:2	730.5	589.5	50	18	5	7	20
PE	36o:3	728.6	587.6	50	18	5	7	20
PE	36o:4	726.5	585.5	50	18	5	7	20
PE	36o:5	724.5	583.5	50	18	5	7	20
PE	36o:6	722.5	581.5	50	18	5	7	20
PE	38o:4	754.6	613.6	50	18	5	7	20

PE	38o:5	752.6	611.6	50	18	5	7	20
PE	40o:5	780.6	639.6	50	18	5	7	20
PE	40o:6	778.5	637.5	50	18	5	7	20
PE	40o:7	776.6	635.6	50	18	5	7	20
PS	32:0	736.5	551.5	60	18	7	8	40
PS	32:1	734.5	549.5	60	18	7	8	40
PS	34:0	764.5	579.5	60	18	7	8	40
PS	34:1	762.5	577.5	60	18	7	8	40
PS	36:2	788.5	603.5	60	18	7	8	40
PS	36:0	792.5	607.5	60	18	7	8	40
PS	36:1	790.5	605.5	60	18	7	8	40
PS	38:5	810.5	625.5	60	18	7	8	40
PS	38:4	812.5	627.5	60	18	7	8	40
PS	38:3	814.5	629.5	60	18	7	8	40
PS	40:7	834.5	649.5	60	18	7	8	40
PS	40:6	836.5	651.5	60	18	7	8	40
PS	40:5	838.5	653.5	60	18	7	8	40
PS	40:8	832.5	647.5	60	18	7	8	40
PS	40:4	840.5	655.5	60	18	7	8	40
PI	32:0	828.5	184.1	60	40	7	3	30
PI	32:1	826.5	184.1	60	40	7	3	30
PI	34:0	856.5	184.1	60	40	7	3	30
PI	34:3	850.5	184.1	60	40	7	3	30
PI	34:2	852.5	184.1	60	40	7	3	30
PI	34:1	854.5	184.1	60	40	7	3	30
PI	36:4	876.5	184.1	60	40	7	3	30
PI	36:3	878.5	184.1	60	40	7	3	30
PI	36:2	880.5	184.1	60	40	7	3	30
PI	36:1	882.5	184.1	60	40	7	3	30
PI	36:0	884.5	184.1	60	40	7	3	30
PI	38:6	900.5	184.1	60	40	7	3	30
PI	38:5	902.5	184.1	60	40	7	3	30
PI	38:4	904.5	184.1	60	40	7	3	30
PI	38:3	906.5	184.1	60	40	7	3	30
PI	38:2	908.5	184.1	60	40	7	3	30
PI	40:6	928.5	184.1	60	40	7	3	30
PI	40:5	930.5	184.1	60	40	7	3	30
PI	40:4	932.5	184.1	60	40	7	3	30
PG	32:0	740.5	551.5	25	18	5	8	25
PG	32:1	738.5	549.5	25	18	5	8	25
PG	34:0	768.6	579.6	25	18	5	8	25
PG	34:2	764.5	575.5	25	18	5	8	25
PG	34:1	766.5	577.5	25	18	5	8	25
PG	36:4	788.5	599.5	25	18	5	8	25
PG	36:3	790.5	601.5	25	18	5	8	25
PG	36:2	792.5	603.5	25	18	5	8	25
PG	36:1	794.5	605.5	25	18	5	8	25

PA	32:3	660.5	155	35	45	5	3	35
PA	32:2	662.5	155	35	45	5	3	35
PA	32:1	664.5	155	35	45	5	3	35
PA	32:0	666.5	155	35	45	5	3	35
PA	34:2	690.5	155	35	45	5	3	35
PA	34:1	692.5	155	35	45	5	3	35
PA	34:0	694.5	155	35	45	5	3	35
PA	36:2	718.5	155	35	45	5	3	35
PA	36:1	720.5	155	35	45	5	3	35
PA	36:0	722.5	155	35	45	5	3	35
PA	38:4	742.5	155	35	45	5	3	35
FFA	12:0	218.2	218.2	25	5	25	4	7
FFA	13:0	232.2	232.2	25	5	25	4	7
FFA	14:0	246.2	246.2	25	5	25	4	7
FFA	15:0	260.2	260.2	25	5	25	4	7
FFA	16:1	272.2	272.2	25	5	25	4	7
FFA	16:0	274.2	274.2	25	5	25	4	7
FFA	17:1	286.3	286.3	25	5	25	4	7
FFA	17:0	288.3	288.3	25	5	25	4	7
FFA	18:3	296.3	296.3	25	5	25	4	7
FFA	18:2	298.3	298.3	25	5	25	4	7
FFA	18:1	300.3	300.3	25	5	25	4	7
FFA	18:0	302.3	302.3	25	5	25	4	7
FFA	19:0	316.3	316.3	25	5	25	4	7
FFA	20:5	320.3	320.3	25	5	25	4	7
FFA	20:4	322.3	322.3	25	5	25	4	7
FFA	20:3	324.3	324.3	25	5	25	4	7
FFA	20:2	326.3	326.3	25	5	25	4	7
FFA	20:1	328.3	328.3	25	5	25	4	7
FFA	20:0	330.3	330.3	25	5	25	4	7
FFA	22:6	346.3	346.3	25	5	25	4	7
FFA	22:5	348.3	348.3	25	5	25	4	7
FFA	22:4	350.3	350.3	25	5	25	4	7
FFA	22:2	354.4	354.4	25	5	25	4	7
FFA	22:1	356.4	356.4	25	5	25	4	7
FFA	22:0	358.4	358.4	25	5	25	4	7
FFA	24:1	384.4	384.4	25	5	25	4	7
FFA	24:0	386.4	386.4	25	5	25	4	7
MAG	14:0	303.3	58.1	30	50	8	5	12
MAG	14:1	301.3	75.1	30	50	8	5	12
MAG	15:0	317.3	75.1	30	50	8	5	12
MAG	16:1	329.3	75.1	30	50	8	5	12
MAG	16:0	331.3	75.1	30	50	8	5	12
MAG	17:1	343.3	75.1	30	50	8	5	12
MAG	17:0	345.3	75.1	30	50	8	5	12
MAG	18:3	353.3	75.1	30	50	8	5	12
MAG	18:2	355.3	75.1	30	50	8	5	12

MAG	18:1	357.3	75.1	30	50	8	5	12
MAG	18:0	359.3	75.1	30	50	8	5	12
MAG	19:0	373.4	75.1	30	50	8	5	12
MAG	20:5	377.3	75.1	30	50	8	5	12
MAG	20:4	379.3	75.1	30	50	8	5	12
MAG	20:3	381.3	75.1	30	50	8	5	12
MAG	20:2	383.3	75.1	30	50	8	5	12
MAG	20:1	385.4	75.1	30	50	8	5	12
MAG	20:0	387.4	75.1	30	50	8	5	12
MAG	22:6	403.3	75.1	30	50	8	5	12
MAG	22:5	405.3	75.1	30	50	8	5	12
MAG	22:4	403.3	75.1	30	50	8	5	12
MAG	22:2	411.4	75.1	30	50	8	5	12
MAG	22:1	413.4	75.1	30	50	8	5	12
MAG	22:0	415.4	75.1	30	50	8	5	12
DAG	30:0	558.5	313.3	20	32	3	5	20
DAG	32:1	584.5	285.3	20	32	3	5	20
DAG	32:2	582.5	285.3	20	32	3	5	20
DAG	30:0	558.5	299.3	20	32	3	5	20
DAG	32:0	586.5	313.3	20	32	3	5	20
DAG	34:0	614.6	341.3	20	32	3	5	20
DAG	34:1	612.6	339.3	20	32	3	5	20
DAG	34:2	610.6	313.3	20	32	3	5	20
DAG	36:3	636.6	313.3	20	32	3	5	20
DAG	36:4	634.5	313.3	20	32	3	5	20
DAG	38:6	660.6	313.3	20	32	3	5	20
DAG	38:6	658.5	313.3	20	32	3	5	20
DAG	34:1	612.6	311.3	20	32	3	5	20
DAG	34:2	610.5	339.3	20	32	3	5	20
DAG	34:0	614.6	327.3	20	32	3	5	20
DAG	36:0	642.6	341.3	20	32	3	5	20
DAG	36:1	640.6	339.3	20	32	3	5	20
DAG	36:2	638.6	341.3	20	32	3	5	20
DAG	38:4	662.6	341.3	20	32	3	5	20
DAG	40:6	686.6	341.3	20	32	3	5	20
DAG	36:2	638.6	339.3	20	32	3	5	20
DAG	36:3	636.6	339.3	20	32	3	5	20
DAG	36:4	634.6	339.3	20	32	3	5	20
DAG	38:4	662.6	339.3	20	32	3	5	20
DAG	38:5	660.6	339.3	20	32	3	5	20
DAG	40:7	684.6	339.3	20	32	3	5	20
DAG	36:4	634.5	337.3	20	32	3	5	20
TAG	48:1	822.8	523.5	60	32	10	6	25
TAG	48:2	820.8	547.5	60	32	10	6	25
TAG	48:2	820.8	521.5	60	32	10	6	25
TAG	48:3	818.8	521.5	60	32	10	6	25
TAG	49:1	836.8	537.5	60	32	10	6	25

TAG	50:1	850.8	605.6	60	32	10	6	25
TAG	50:4	844.8	599.6	60	32	10	6	25
TAG	48:2	820.8	577.6	60	32	10	6	25
TAG	48:2	820.8	549.5	60	32	10	6	25
TAG	50:3	846.8	603.6	60	32	10	6	25
TAG	50:3	846.8	547.5	60	32	10	6	25
TAG	45:0 IS	782.7	523.4	60	32	10	6	25
TAG	49:1	836.8	577.5	60	32	10	6	25
TAG	51:2	862.8	603.5	60	32	10	6	25
TAG	48:0	824.8	551.5	60	32	10	6	25
TAG	50:0	852.8	551.5	60	32	10	6	25
TAG	50:1	850.8	551.5	60	32	10	6	25
TAG	50:2	848.8	551.5	60	32	10	6	25
TAG	49:1	836.8	563.5	60	32	10	6	25
TAG	50:2	848.8	549.5	60	32	10	6	25
TAG	51:0	866.8	593.6	60	32	10	6	25
TAG	51:1	864.8	565.5	60	32	10	6	25
TAG	51:2	862.8	589.6	60	32	10	6	25
TAG	52:1	878.8	577.5	60	32	10	6	25
TAG	52:2	876.8	603.6	60	32	10	6	25
TAG	52:3	874.8	577.6	60	32	10	6	25
TAG	52:4	872.8	599.6	60	32	10	6	25
TAG	48:3	818.8	547.5	60	32	10	6	25
TAG	50:2	848.8	547.5	60	32	10	6	25
TAG	50:3	847.8	576.5	60	32	10	6	25
TAG	51:2	862.8	563.5	60	32	10	6	25
TAG	52:3	874.8	603.5	60	32	10	6	25
TAG	52:4	872.8	573.6	60	32	10	6	25
TAG	53:2	890.8	603.6	60	32	10	6	25
TAG	51:0 IS	866.8	579.6	60	32	10	6	25
TAG	54:0	908.9	607.6	60	32	10	6	25
TAG	54:1	906.9	607.6	60	32	10	6	25
TAG	54:2	904.9	603.6	60	32	10	6	25
TAG	54:4	900.8	599.5	60	32	10	6	25
TAG	54:3	902.9	603.6	60	32	10	6	25
TAG	54:4	900.9	603.7	60	32	10	6	25
TAG	56:6	924.9	603.6	60	32	10	6	25
TAG	58:8	948.9	603.7	60	32	10	6	25
TAG	54:5	898.9	599.6	60	32	10	6	25
TAG	54:6	896.9	599.6	60	32	10	6	25
TAG	56:8	920.9	599.6	60	32	10	6	25
MHC	16:0	700.6	264.3	40	35	5	3	25
MHC	18:0	728.6	264.3	40	35	5	3	25
MHC	20:0	756.6	264.3	40	35	5	3	25
MHC	22:0	784.7	264.3	40	35	5	3	25
MHC	24:0	812.7	264.3	40	35	5	3	25
MHC	24:1	810.7	264.3	40	35	5	3	25

DHC	16:0	862.6	264.3	40	35	5	3	25
DHC	18:0	890.7	264.3	40	35	5	3	25
DHC	20:0	918.7	264.3	40	35	5	3	25
DHC	22:0	946.7	264.3	40	35	5	3	25
DHC	24:0	947.8	264.3	40	35	5	3	25
DHC	24:1	972.7	264.3	40	35	5	3	25
THC	17:0	1038.7	264.3	40	35	5	3	25
THC	16:0	1024.7	264.3	40	35	5	3	25
THC	18:0	1052.7	264.3	40	35	5	3	25
THC	20:0	1080.7	264.3	40	35	5	3	25
THC	22:0	1108.8	264.3	40	35	5	3	25
THC	24:0	1136.8	264.3	40	35	5	3	25
THC	24:1	1134.8	264.3	40	35	5	3	25
GM3	16:0	1153.7	264.3	40	35	5	3	25
GM3	18:0	1181.8	264.3	40	35	5	3	25
GM3	20:0	1209.8	264.3	40	35	5	3	25
GM3	22:0	1237.8	264.3	40	35	5	3	25
GM3	24:0	1265.9	264.3	40	35	5	3	25
GM3	24:1	1263.8	264.3	40	35	5	3	25
LPS	LPS-13:0	454.20	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-16:1	494.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-16:0	496.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-18:2	520.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-18:1	522.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-18:0	524.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-20:3	546.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-20:4	544.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-20:5	542.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPS	LPS-22:6	568.30	153.00	-30.00	-35.00	-6.00	-5.00	-18.00
LPI	LPI-13:0	529.20	213.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-16:1	567.20	253.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-16:0	569.20	255.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-18:2	595.20	279.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-18:1	597.20	281.40	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-18:0	599.20	283.30	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-20:3	621.20	305.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-20:4	619.20	303.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-20:5	617.20	301.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPI	LPI-22:6	643.20	327.20	-55.00	-43.00	-6.00	-5.00	-18.00
LPA	LPA-16:1	407.20	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-16:0	409.20	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-17:0	423.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-18:2	433.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-18:1	435.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-18:0	437.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-20:3	459.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-20:4	457.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00

LPA	LPA-20:5	455.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPA	LPA-22:6	464.30	153.00	-40.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-13:0	410.20	213.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-16:0e	440.30	299.30	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-16:1	452.30	253.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-16:0	454.30	255.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-18:2	478.30	279.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-18:3	476.30	277.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-18:1	480.30	281.40	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-18:0	482.30	283.30	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-18:0e	468.30	327.30	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-20:0	510.30	311.30	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-20:3	504.30	305.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-20:4	502.30	303.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-20:5	500.30	301.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPE	LPE-22:6	530.30	327.20	-35.00	-30.00	-6.00	-5.00	-18.00
LPG	LPG-13:0	441.30	213.20	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-16:1	481.30	253.20	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-16:0	483.30	255.20	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-18:2	507.30	279.20	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-18:1	509.30	281.40	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-18:0	511.30	283.30	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-20:3	533.30	305.20	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-20:4	531.30	303.20	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-20:5	529.30	301.20	-40.00	-35.00	-6.00	-5.00	-18.00
LPG	LPG-22:6	555.30	327.20	-40.00	-35.00	-6.00	-5.00	-18.00
PE	17:0/17:0	718.60	269.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	32:2	686.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	32:2	686.50	279.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	32:1	688.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	32:1	688.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	32:0	690.50	255.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	32:0	690.50	283.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	34:0	718.50	283.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	34:1	716.50	255.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	34:1	716.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	34:2	714.50	279.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	34:2	714.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	34:3	712.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	34:3	712.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:5	736.50	301.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:5	736.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:5	736.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:4	738.50	303.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:4	738.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:4	738.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:4	738.50	279.20	-60.00	-45.00	-6.00	-5.00	-18.00

PE	36:3	740.50	305.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:3	740.50	307.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:3	740.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:3	740.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:2	742.50	307.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:2	742.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:2	742.50	279.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:2	742.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:1	744.50	309.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:1	744.50	253.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	36:1	744.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:7	760.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:7	760.50	301.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:7	760.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:6	762.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:6	762.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:6	762.50	303.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:6	762.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:5	764.50	329.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:5	764.50	331.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:5	764.50	301.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:5	764.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:5	764.50	305.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:5	764.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:4	766.50	331.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:4	766.50	303.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:4	766.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:4	766.50	307.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38:4	766.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38.3	768.50	335.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38.3	768.50	305.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38.3	768.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38.3	768.50	309.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	38.3	768.50	277.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:7	788.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:7	788.50	331.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:7	788.50	305.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:6	790.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:6	790.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:6	790.50	331.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:5	792.50	329.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:5	792.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:5	792.50	301.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:5	792.50	303.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:4	794.50	331.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	40:4	794.50	303.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	42:9	812.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00

PE	42:8	814.50	331.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	42:8	814.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	42:6	818.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-34p:2 (16:0/18:2)	698.50	279.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-34p:1 (16:0/18:1)	700.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-34p:1 (16:0/18:0)	702.50	283.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-36p:4 (16:0/20:4)	722.50	303.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-36p:3 (16:0/20:3)	724.50	305.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-36p:2 (18:0/18:2)	726.50	279.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-36p:1 (18:0/18:1)	728.50	281.40	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-36p:1 (18:0/18:0)	730.50	283.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-38p:6 (16:0/22:6)	746.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-38p:5 (16:0/22:5)	748.50	329.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-38p:4 (18:0/20:4)	750.50	331.30	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-40p:6 (18:0/22:6)	774.50	327.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-40p:5 (18:0/22:5)	776.50	329.20	-60.00	-45.00	-6.00	-5.00	-18.00
PE	PE-40p:4 (20:0/20:4)	778.50	303.20	-60.00	-45.00	-6.00	-5.00	-18.00
PS	PS-16:0/16:0	736.50	255.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-14:0/18:0	736.50	283.30	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/16:1	734.50	253.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-14:0/18:1	734.50	281.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:0	764.50	283.30	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-17:0/17:0	764.50	269.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:1	762.50	281.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:1	762.50	255.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:1/18:0	762.50	253.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:1/18:0	762.50	283.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:2	788.50	279.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:2	788.50	255.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:1/18:1	788.50	253.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:0	792.50	283.30	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-17:0/17:0	792.50	269.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:1	790.50	281.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/18:1	790.50	255.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:1/18:0	790.50	253.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/22:6	808.50	327.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/22:5	810.50	329.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:1/22:4	810.50	331.30	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:1/20:4	810.50	303.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:2/20:3	810.50	279.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-16:0/22:4	812.50	255.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:0/20:4	812.50	303.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:0/20:4	812.50	283.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:1/20:3	812.50	281.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:0/20:3	814.50	305.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:1/22:6	834.50	281.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:0/22:6	836.50	327.20	-60.00	-58.00	-6.00	-5.00	-18.00

PS	PS-18:1/22:5	836.50	329.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:2/22:4	836.50	331.30	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:0/22:5	838.50	329.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:1/22;4	838.50	281.40	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-20:0/20:5	838.50	301.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-20;1/20:4	838.50	309.30	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:2/22:6	832.50	327.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:3/22:5	832.50	277.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-20:4/20:4	832.50	303.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-18:0/22:4	840.50	331.30	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-20:0/20:4	840.50	303.20	-60.00	-58.00	-6.00	-5.00	-18.00
PS	PS-20:1/20:3	840.50	309.30	-60.00	-58.00	-6.00	-5.00	-18.00
PI	PI-16:0/16:0	809.50	255.20	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-18:0/18:0	865.60	283.30	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-16:0/20:4	857.50	303.20	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-20:0/18:2	908.50	311.30	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-18:0/20:3	887.60	305.20	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-18:0/20:4	885.50	303.20	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-16:0/22:6	900.50	327.20	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-20:4/20:4	905.50	331.30	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-18:0/22:6	909.50	303.20	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-18:0/22:5	911.60	329.20	-55.00	-43.00	-6.00	-5.00	-18.00
PI	PI-18:0/22:4	913.60	283.30	-55.00	-43.00	-6.00	-5.00	-18.00
PG	PG-14:0/18:0	721.50	283.30	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/16:0	721.50	255.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-14:0/18:1	719.50	281.40	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/16:1	719.50	253.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/18:0	749.50	255.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-17:0/17:0	749.50	269.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/18:2	745.50	279.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:1/18:1	745.50	281.40	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/18:1	747.50	255.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:1/18:0	747.50	283.30	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/20:4	769.50	303.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:1/20:3	769.50	253.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-18:1/18:3	769.50	277.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-18:2/18:2	769.50	279.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/20:3	771.50	305.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-18:0/18:3	771.50	283.30	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-18:1/18:2	771.50	279.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:1/20:1	773.50	309.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-18:0/18:2	773.50	279.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-18:1/18:1	773.50	281.40	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:0/20:1	775.50	309.20	-70.00	-50.00	-6.00	-5.00	-18.00
PG	PG-16:1/20:0	775.50	253.20	-70.00	-50.00	-6.00	-5.00	-18.00
PA	PA-14:0/18:3	641.1	277.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-14:0/18:2	643.1	279.20	-60.00	-48.00	-6.00	-5.00	-18.00

PA	PA-14:0/18:1	645.1	281.40	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/16:1	645.1	253.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-14:0/18:0	647.1	227.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/16:0	647.1	255.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/18:2	671.1	279.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:1/18:1	671.1	253.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:1/18:0	673.1	253.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/18:1	673.1	281.40	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-14:0/20:0	675.1	311.30	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/18:0	675.1	255.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-17:0/17:0	675.1	269.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/20:2	699.1	307.30	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:1/20:1	699.1	253.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-18:0/18:2	699.1	279.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-18:1/18:1	699.1	281.40	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/20:1	701.1	309.30	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:1/20:0	701.1	253.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-18:0/18:1	701.1	281.40	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-16:0/20:0	703.1	311.30	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-18:0/18:0	703.1	283.30	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-18:0/20:4	723.1	303.20	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-18:1/20:3	723.1	283.30	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-32:3	641.0	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-32:2	643.0	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-32:1	645.0	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-32:0	647.0	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-34:2	671.1	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-34:1	673.1	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-34:0	675.1	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-36:2	699.1	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-36:1	701.1	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-36:0	703.1	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
PA	PA-38:4	723.1	153.00	-60.00	-48.00	-6.00	-5.00	-18.00
FFA	12:0	199.10	181.10	-40.00	-25.00	-6.00	-5.00	-18.00
FFA	14:0	227.10	183.10	-35.00	-20.00	-6.00	-5.00	-18.00
FFA	14:1	225.10	207.10	-50.00	-20.00	-6.00	-5.00	-18.00
FFA	15:0	241.10	197.10	-25.00	-20.00	-6.00	-5.00	-18.00
FFA	16:0	255.10	237.10	-45.00	-22.00	-6.00	-5.00	-18.00
FFA	16:1	253.10	209.20	-35.00	-20.00	-6.00	-5.00	-18.00
FFA	17:0	269.20	251.20	-50.00	-28.00	-6.00	-5.00	-18.00
FFA	18:3	277.20	233.20	-50.00	-20.00	-6.00	-5.00	-18.00
FFA	18:3	277.20	259.10	-45.00	-20.00	-6.00	-5.00	-18.00
FFA	18:2	279.20	261.20	-55.00	-20.00	-6.00	-5.00	-18.00
FFA	18:1	281.20	263.20	-40.00	-25.00	-6.00	-5.00	-18.00
FFA	18:0	283.30	265.10	-53.00	-28.00	-6.00	-5.00	-18.00
FFA	20:5	301.20	257.20	-45.00	-18.00	-6.00	-5.00	-18.00
FFA	20:4	303.20	285.20	-45.00	-20.00	-6.00	-5.00	-18.00

FFA	20:3	305.20	241.20	-65.00	-25.00	-6.00	-5.00	-18.00
FFA	20:3	305.20	287.20	-55.00	-30.00	-6.00	-5.00	-18.00
FFA	20:2	307.10	241.30	-65.00	-25.00	-6.00	-5.00	-18.00
FFA	20:2	309.20	241.10	-42.00	-25.00	-6.00	-5.00	-18.00
FFA	20:0	311.30	182.00	-65.00	-45.00	-6.00	-5.00	-18.00
FFA	22:6	327.20	283.20	-47.00	-17.00	-6.00	-5.00	-18.00
FFA	22:5	329.20	285.20	-50.00	-17.00	-6.00	-5.00	-18.00
FFA	22:4	331.20	287.20	-55.00	-18.00	-6.00	-5.00	-18.00
FFA	22:2	335.20	269.20	-65.00	-30.00	-6.00	-5.00	-18.00
FFA	22:1	337.20	268.70	-45.00	-25.00	-6.00	-5.00	-18.00
FFA	22:0	339.20	182.90	-60.00	-30.00	-6.00	-5.00	-18.00
FFA	24;0	365.30	255.10	-45.00	-35.00	-6.00	-5.00	-18.00
FFA	24:1	367.30	349.40	-50.00	-35.00	-6.00	-5.00	-18.00

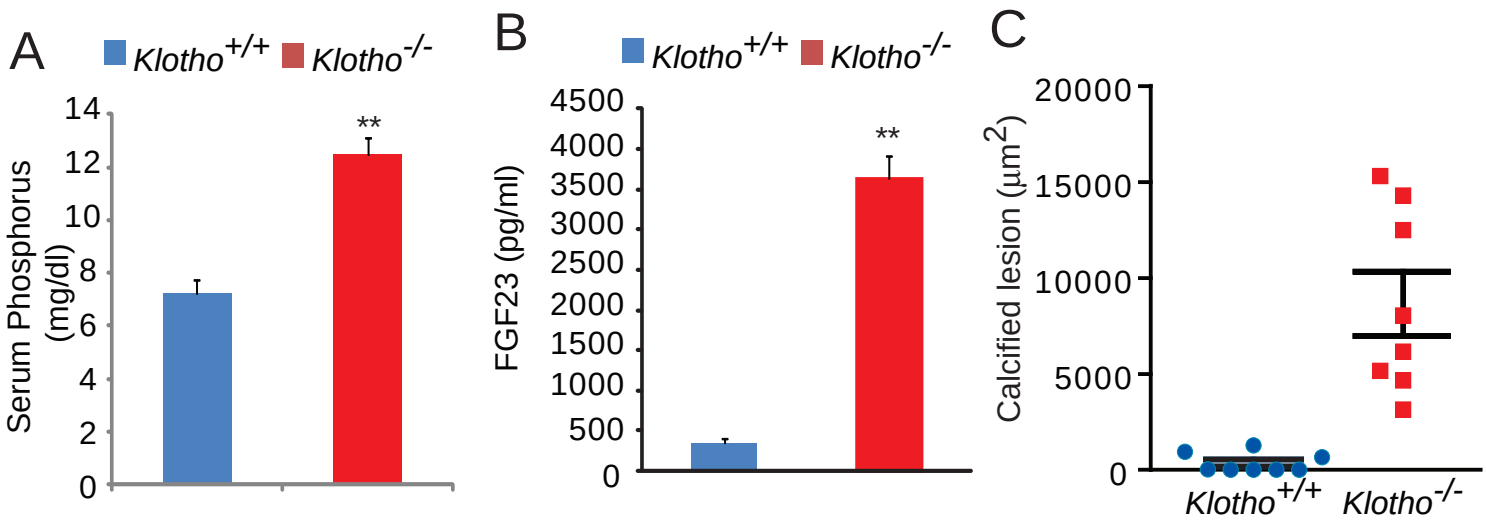
DP;Declustering potential

CE; Collision energy

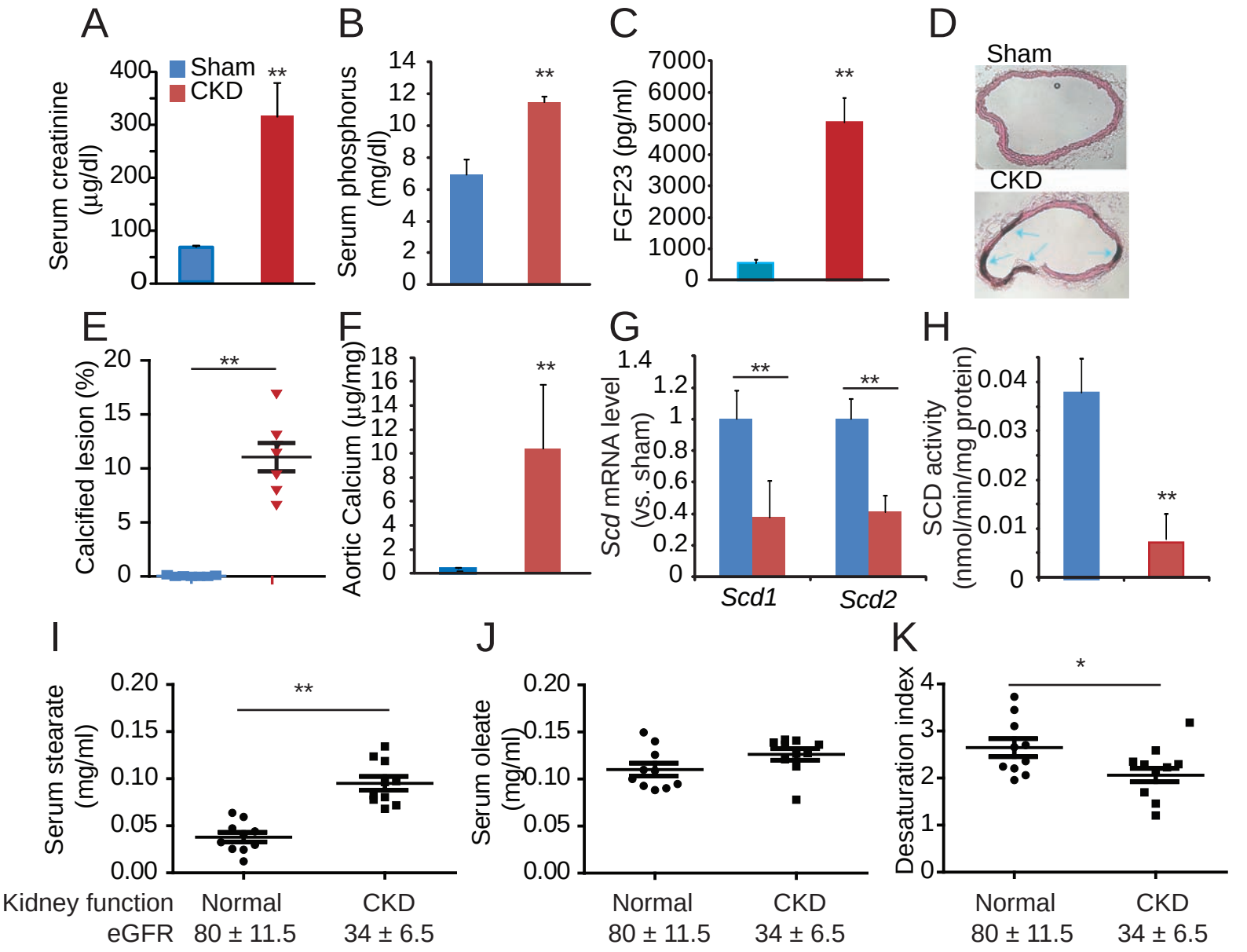
EP; Entrance potential

CXP; Collision cell exit potential

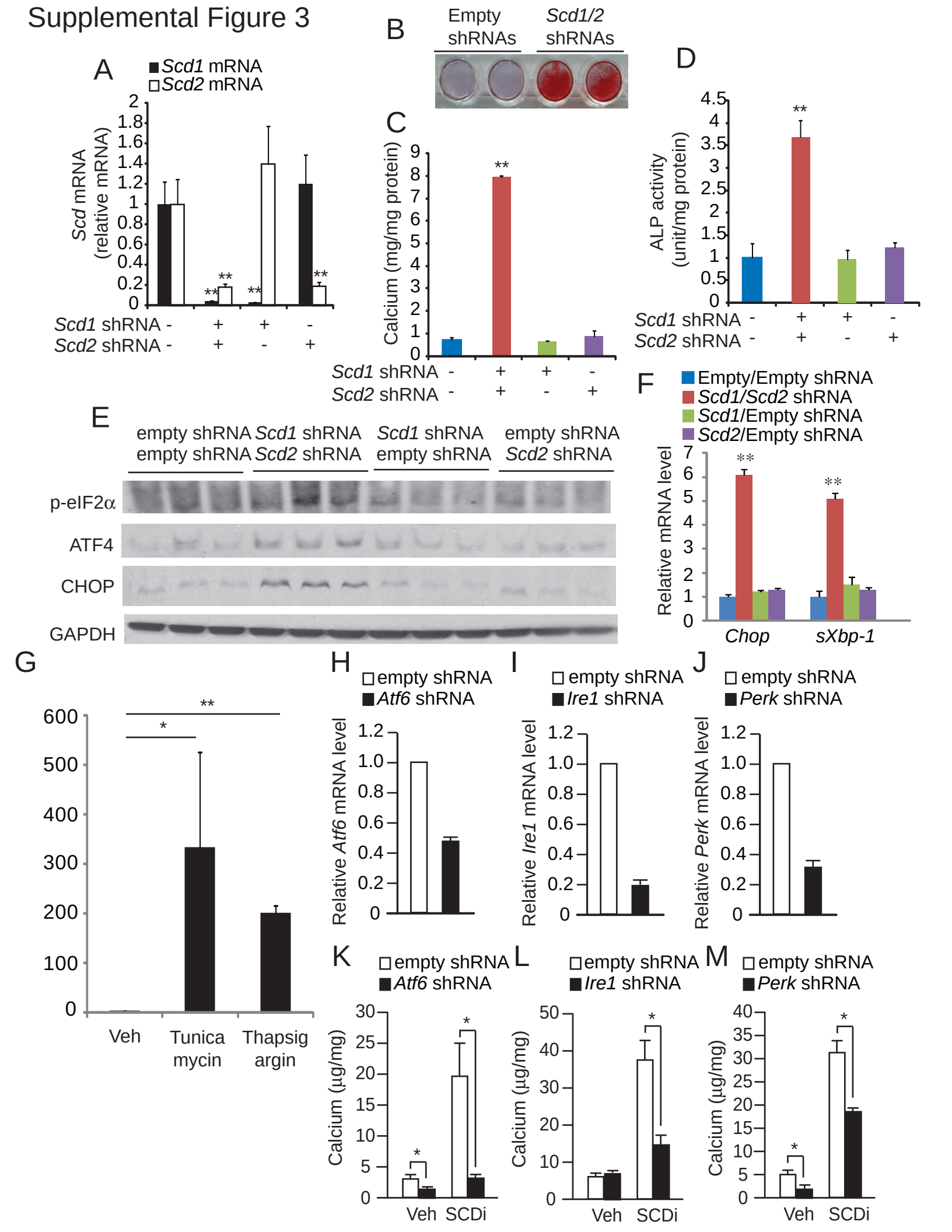
CEP; Collision cell entrance potential

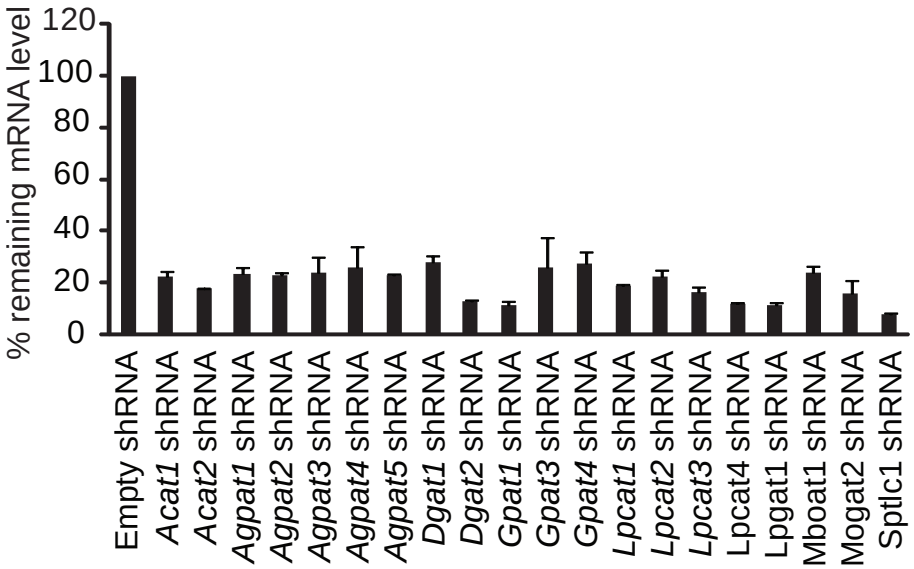


Supplemental Figure 1

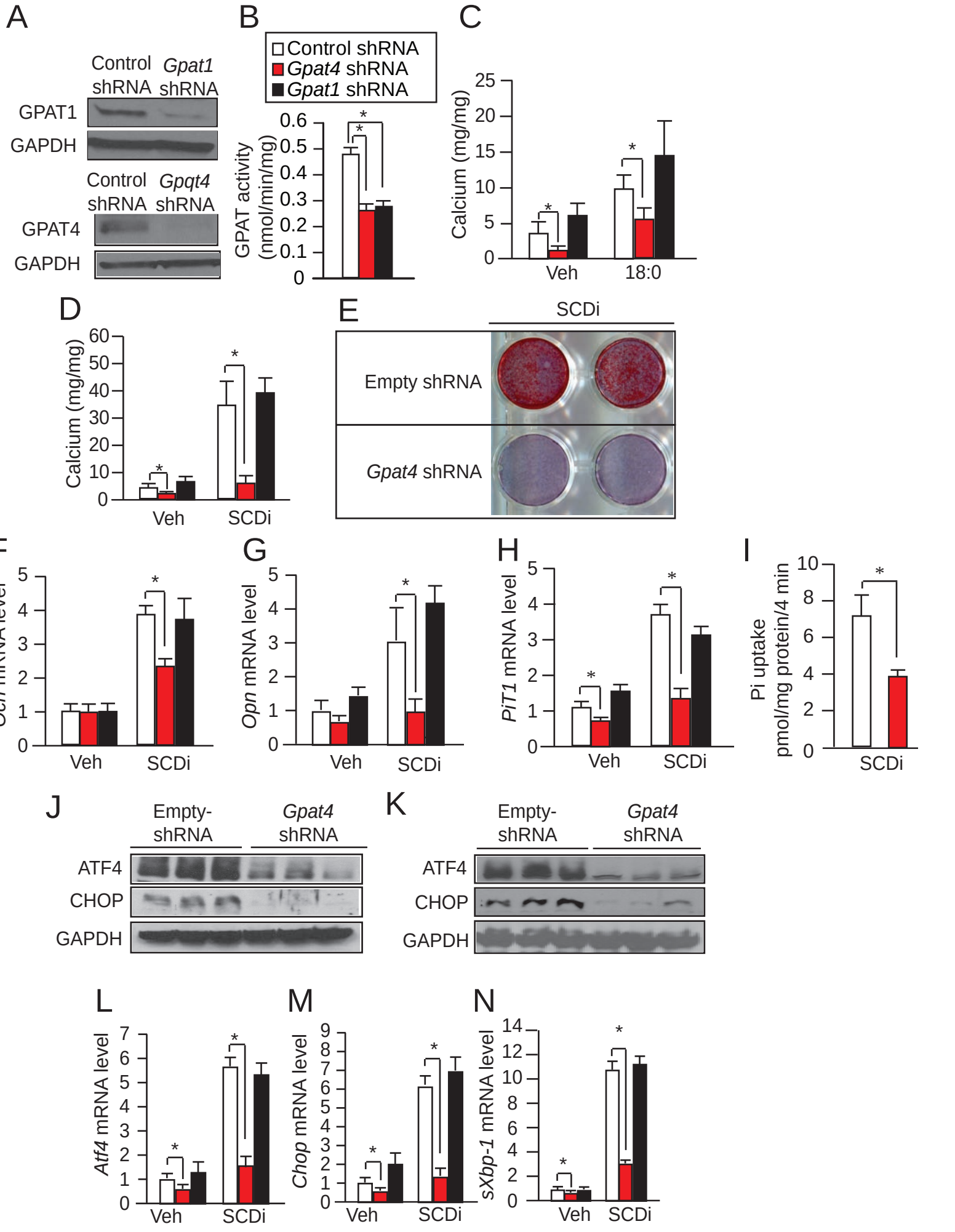

A
Sham
CKD
Serum creatinine (μg/dl)
400
300
200
100
0
**
B
Serum phosphorus (mg/dl)
14
12
10
8
6
4
2
0
**
C
FGF23 (pg/ml)
7000
6000
5000
4000
3000
2000
1000
0
**
D
Sham
CKD
E
Calcified lesion (%)
20
15
10
5
0
**
F
Aortic Calcium (μg/mg)
18
16
14
12
10
8
6
4
2
0
**
G
Scd mRNA level (vs. sham)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
**
**
Scd1
Scd2
H
SCD activity (nmol/min/mg protein)
0.04
0.03
0.02
0.01
0
**
I
Serum stearate (mg/ml)
0.20
0.15
0.10
0.05
0.00
**
J
Serum oleate (mg/ml)
0.20
0.15
0.10
0.05
0.00
K
Desaturation index
4
3
2
1
0
*
Kidney function
Normal
CKD
eGFR
80 ± 11.5
34 ± 6.5
Normal
CKD
80 ± 11.5
34 ± 6.5
Normal
CKD
80 ± 11.5
34 ± 6.5

Supplemental Figure 3

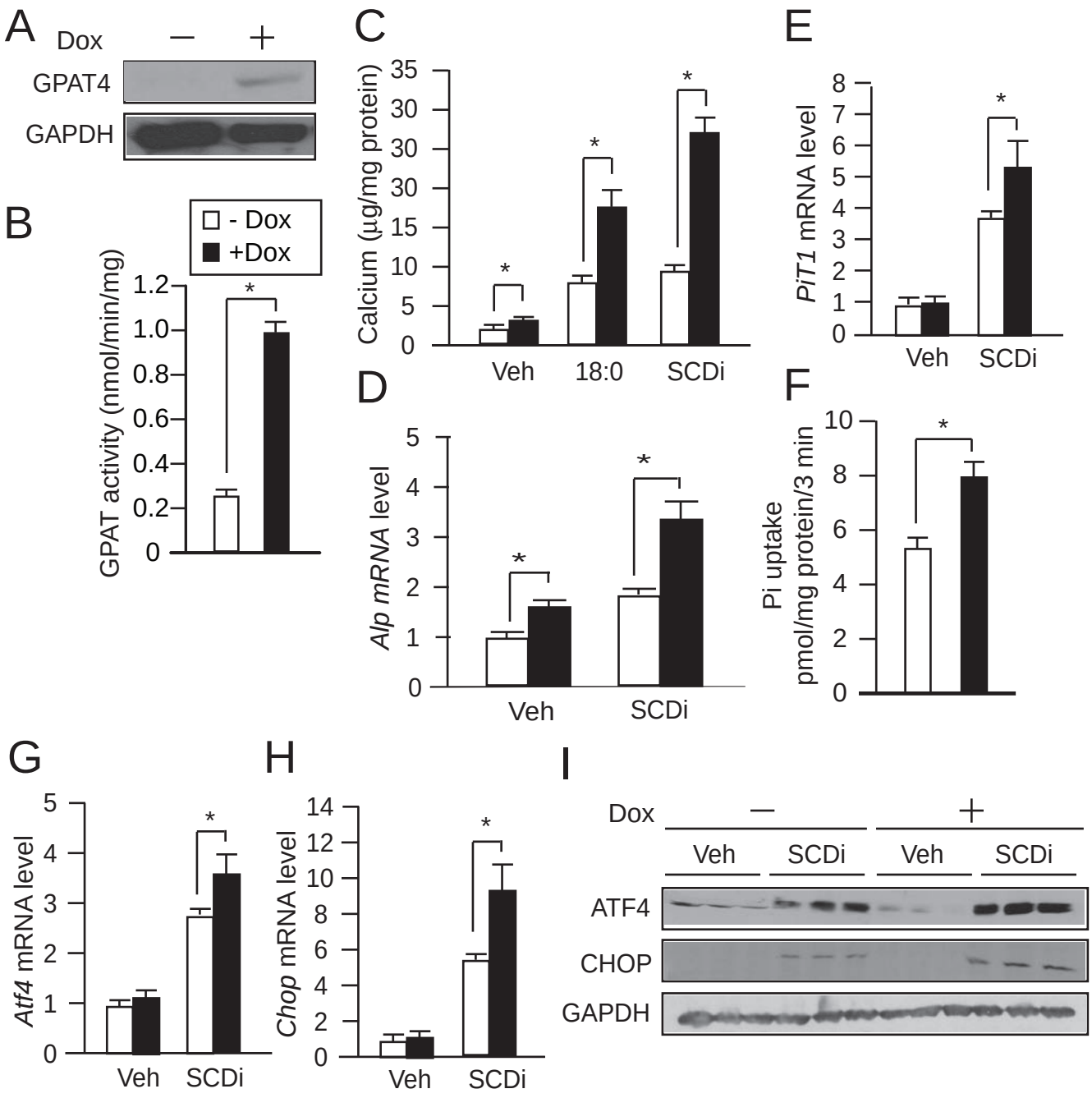




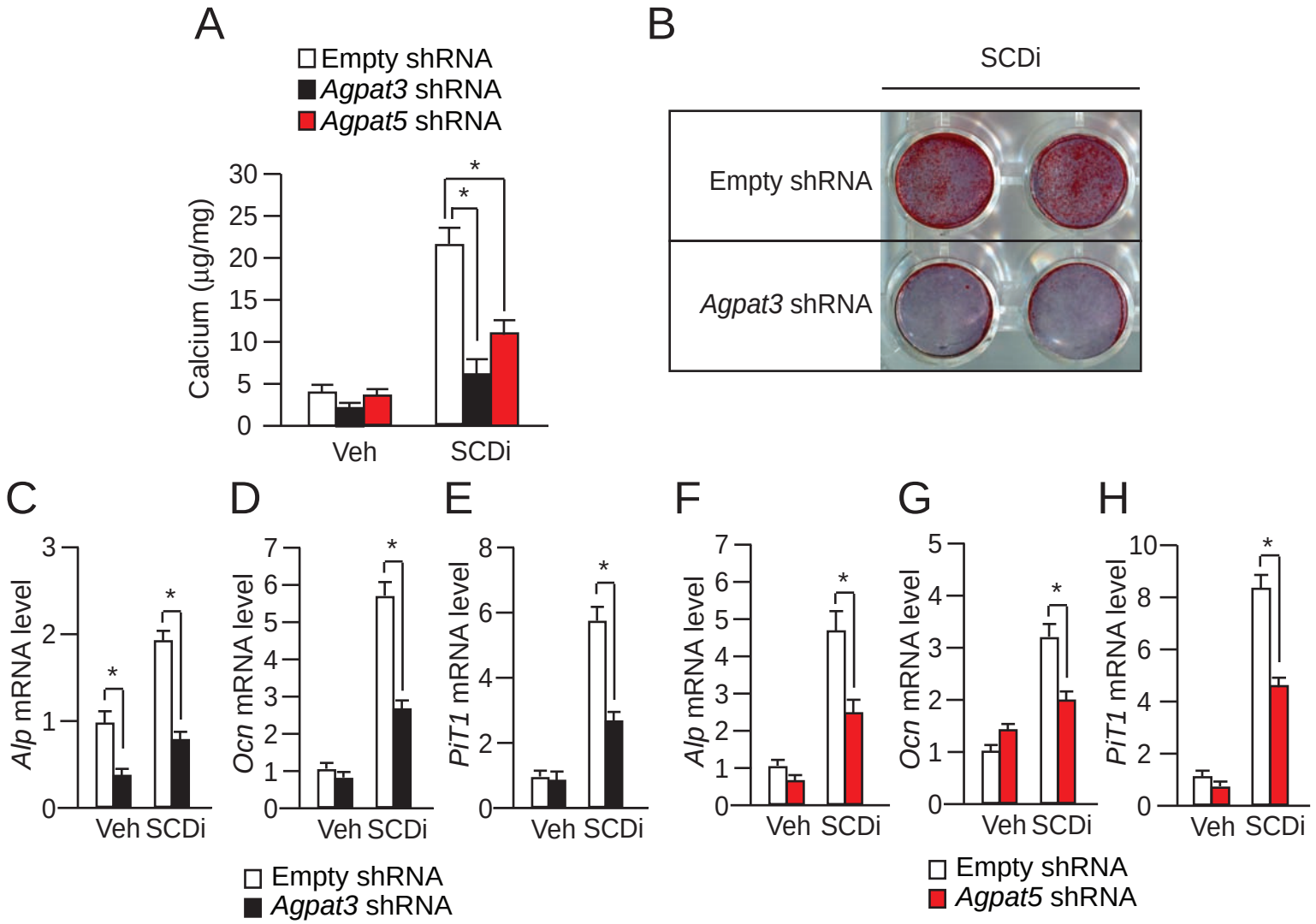
Supplemental Figure 4



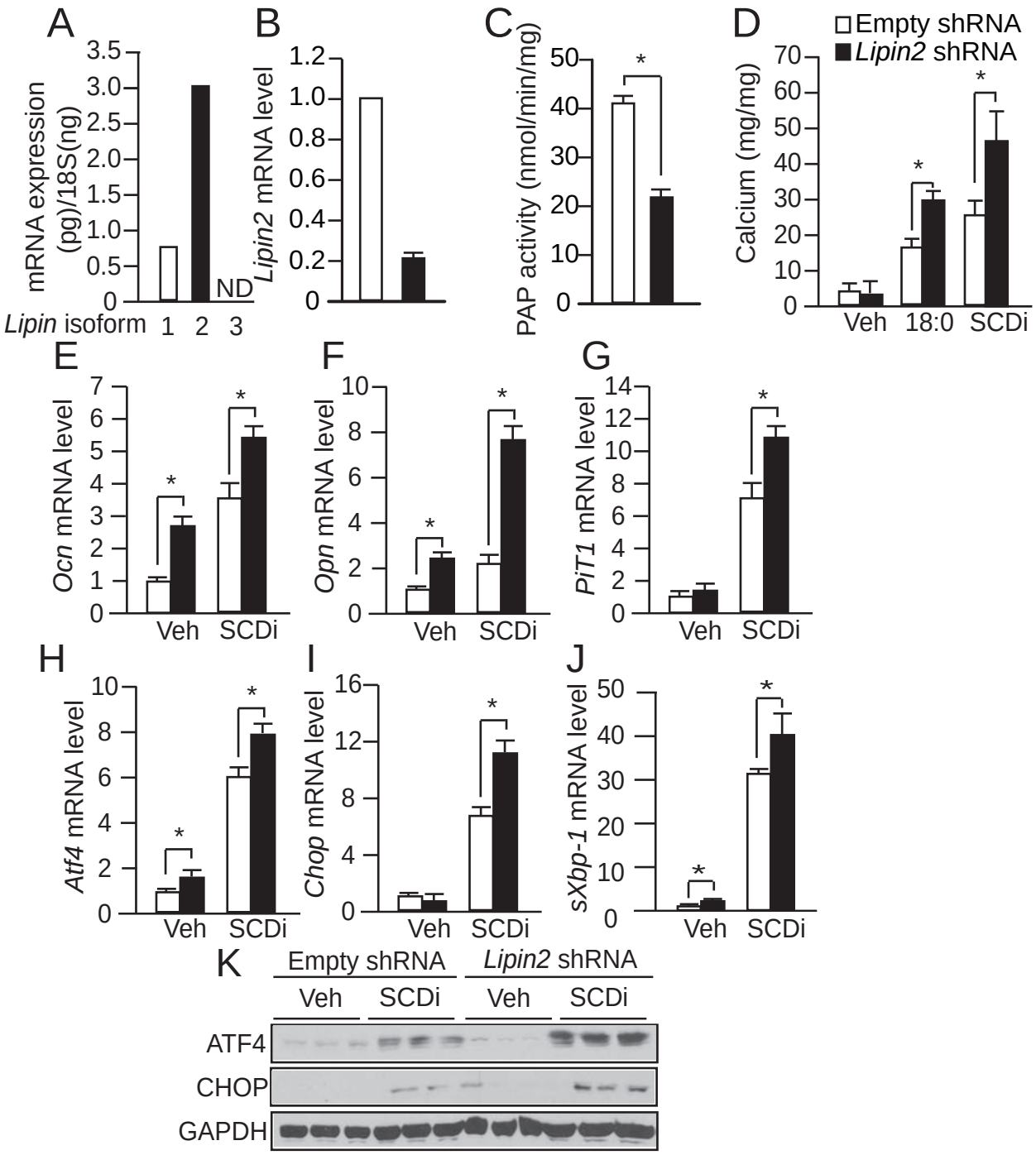
Supplemental Figure 5



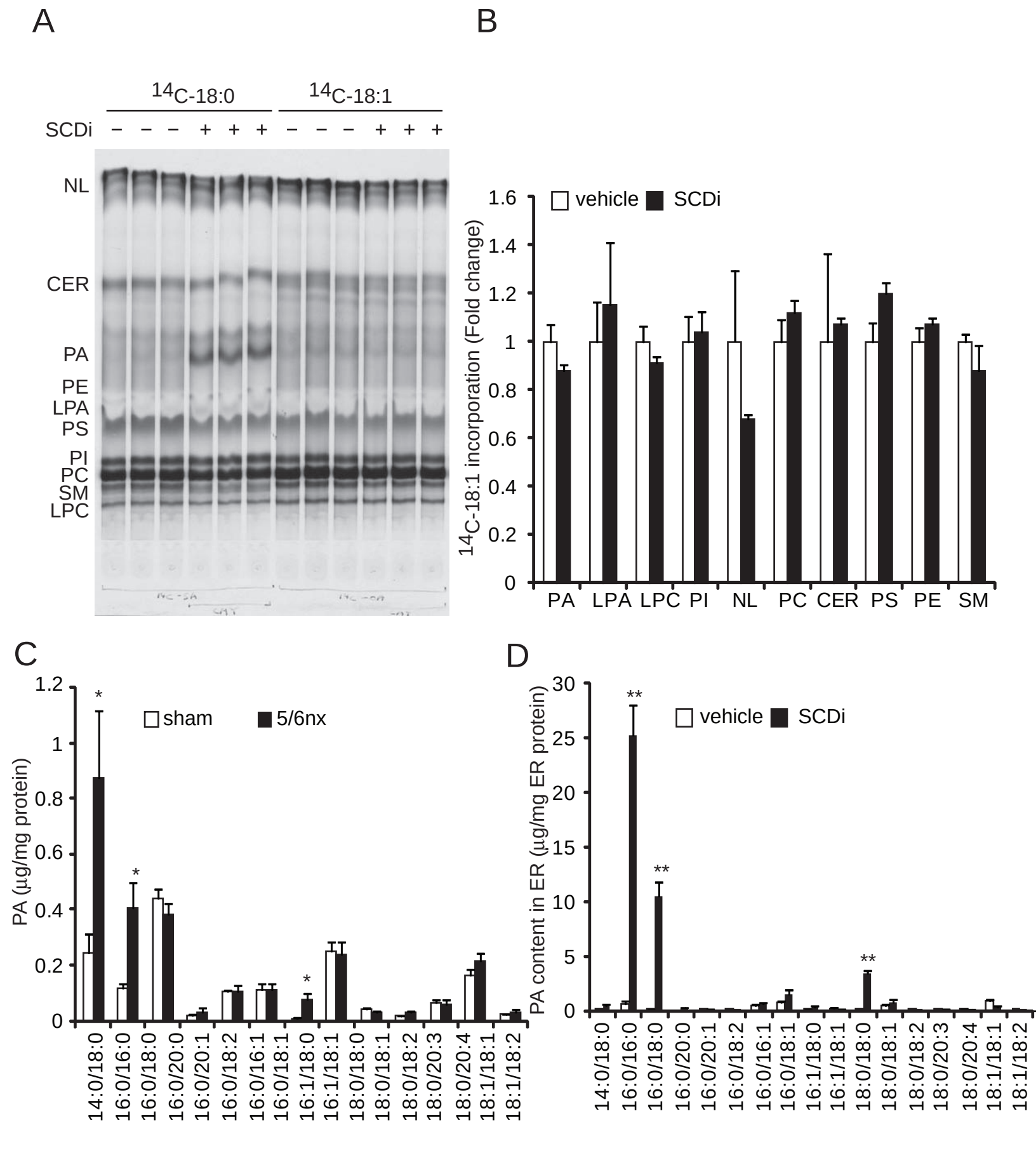
Supplemental Figure 6



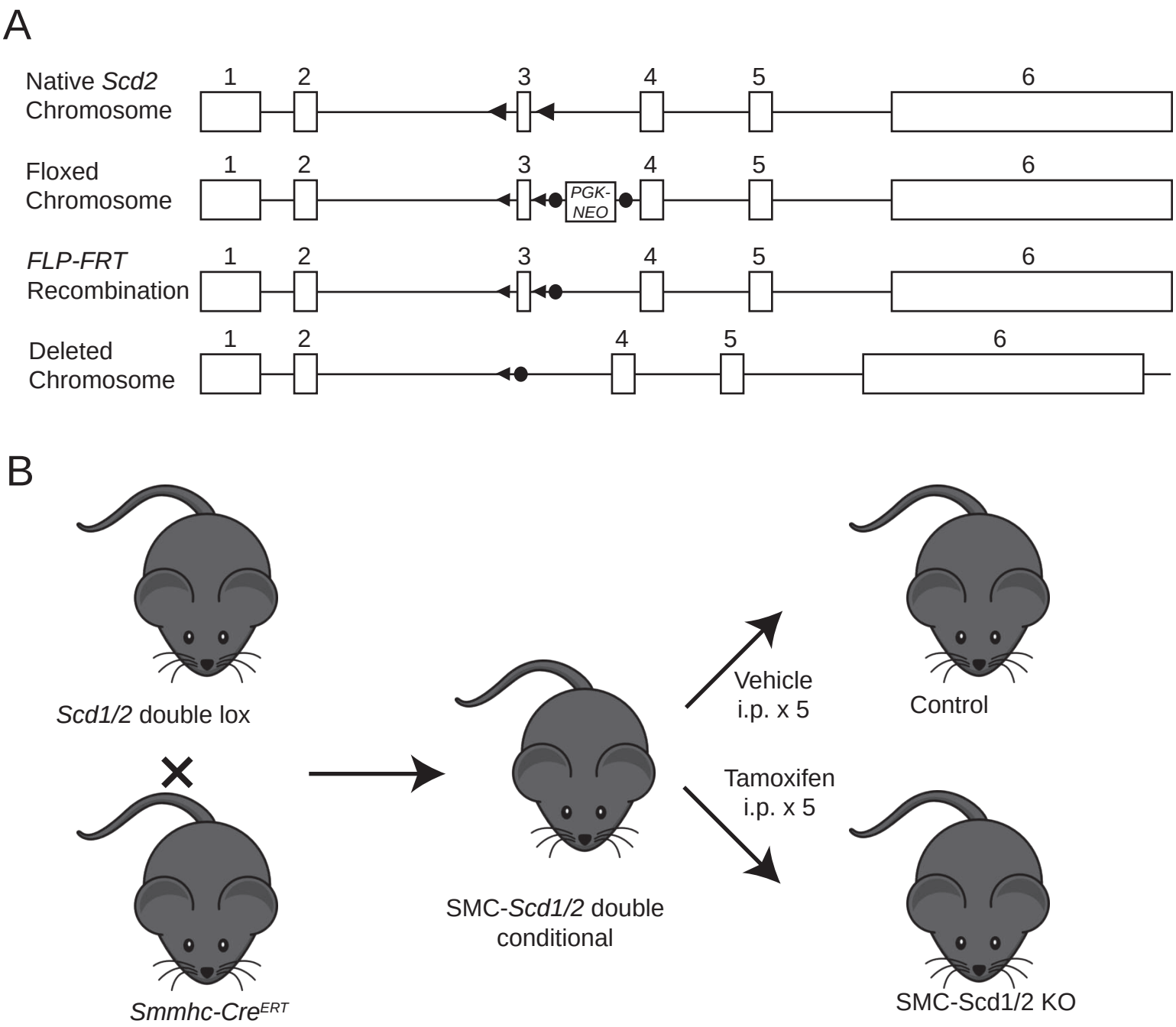
Supplemental Figure 7



Supplemental Figure 8



Supplemental Figure 9



Supplemental Figure 10

Supplemental Figure 1. **Serum phosphorous, serum FGF23 and vascular calcification in Klotho$^{-/-}$ mice.** A) Phosphorous and B) FGF23 in *SMMHC-GFP; Klotho*$^{-/-}$ mice and *SMMHC-GFP; Klotho*$^{+/+}$ mice (N=8). C) Quantification of calcified lesions in the aortic sinuses of *SMMHC-GFP; Klotho*$^{-/-}$ mice and *SMMHC-GFP; Klotho*$^{+/+}$ mice. The lesions of aortic sinuses were cryosectioned and stained with von Kossa.

Supplemental Figure 2. **CKD reduces SCD activity in DBA/2J mice and human patients.** 8-week-old DBA/2J male mice fed a chow diet (N=6) were 5/6 nephrectomized or sham-operated and fed a Western diet (TD110198, Harlan Teklad) for 10 weeks. A) Serum creatinine, B) serum phosphorus and C) FGF23 levels in sham-operated (blue) and 5/6 nephrectomized (red) DBA/2J mice. D) Representative picture of aortas with von Kossa staining. E) Quantification of calcified lesions in the aortas of sham-operated and 5/6 nephrectomized DBA/2J mice. The aortas were cryosectioned and stained with von Kossa. F) Aortic calcium content in sham-operated and 5/6 nephrectomized DBA/2J mice. Aortic calcium level was analyzed using an ash assay coupled with a colorimetric assay. G) Levels of *Scd1* and *Scd2* mRNA in the aortic medial layers of sham-operated and 5/6 nephrectomized DBA/2J mice. H) Aortic SCD activity in sham-operated and 5/6 nephrectomized DBA/2J mice. I) Serum stearate, J) serum oleate and K) desaturation index (18:1/18:0) in age-matched human patients (N=10 per group) with normal kidney function and stage 3 and 4 CKD was measured by gas chromatography using heptadecanoic acid as an internal standard. Other parameters were previously reported (9). *$p<0.05$ and **$p<0.01$ (2-tailed Student's t-test).

Supplemental Figure 3. *Scd1* and *Scd2* dual knockdown but not *Scd1* and *Scd2* single knockdown induces mineralization, osteogenic differentiation and ER stress of VSMCs. MOVAS-1 cells were treated with adenovirus containing *Scd1* shRNA and lentivirus containing *Scd2* shRNA. For the dual knockdown, *Scd2* stable knockdown MOVAS-1 cells were treated with adenovirus containing *Scd1* shRNA at a multiplicity of infection (MOI) of 40. A) *Scd1* and *Scd2* mRNA levels in *Scd1* and *Scd2* dual knockdown cells. Control cells and *Scd2* stable knockdown cells were treated with adenovirus containing SCD1 shRNA or empty shRNA for 24 hours. *Scd1* and *Scd2* mRNA levels were analyzed with real-time qPCR. B) Calcium deposit. Cells treated with empty shRNAs and *Scd1/2* shRNA were stained with Alizarin red. C) Calcium content in *Scd1* and *Scd2* dual knockdown cells. Control cells and SCD2 stable knockdown cells were treated with adenovirus containing *Scd1* shRNA or empty shRNA for 7 days in the

presence of 2.0 mM inorganic phosphate. Calcium was extracted with 0.1N HCl and analyzed with a colorimetric assay. D) ALP activity in *Scd1* and *Scd2* dual knockdown cells. *Scd2* stable knockdown cells were treated with adenovirus containing *Scd1* shRNA or empty shRNA for 4 days. E) Immunoblot analysis of ER stress markers. Control cells and *Scd2* stable knockdown cells were treated with adenovirus containing *Scd1* shRNA or empty shRNA for 24 hours. F) mRNA levels of ER stress markers. Control cells and *Scd2* stable knockdown cells were treated with adenovirus containing *Scd1* shRNA or empty shRNA for 24 hours. G) ER stress inducers tunicamycin and thapsigargin induce mineralization of VSMCs. VSMCs were treated with 0.05 μg/ml tunicamycin and 0.05 μM thapsigargin for 7 days. Calcium was analyzed with a colorimetric assay. H-J) *Atf6*, *Ire1* and *Perk* shRNAs efficiently reduced their target genes. K-M) *Atf6*-, *Ire1*- and *Perk*-knockdown attenuated SCD inhibition-induced mineralization of VSMCs. *Atf6*, *Ire1* and *Perk* mRNA levels were analyzed with real-time qPCR. Cells were treated with vehicle (Veh) or SCD inhibitor (SCDi) for 7 days in the 2.0 mM inorganic phosphate. *$p<0.05$ and **$p<0.001$ vs. MOVAS cells treated with lentivirus containing empty shRNA and adenovirus containing empty shRNA or vehicle (Veh) (2 tailed Student's t-test).

Supplemental Figure 4. Acyltransferase-knockdown stable VSMCs. ShRNA-mediated knockdown of acyltransferases in VSMCs. MOVAS-1 cells were infected with lentiviruses containing acyltransferase shRNAs for 48 hours and selected with 5 μg/ml puromycin to generate each acyltransferase stable knockdown VSMC. Levels of acyltransferase mRNAs were determined by real-time qPCR. Each shRNA reduced its targeted acyltransferase by over 75%. N=3.

Supplemental Figure 5. *Gpat4* but not *Gpat1* knockdown inhibits SFA induced-mineralization, osteogenic differentiation and ER stress in VSMCs. A) Immunoblot analysis of GPAT1 and GPAT4 in *Gpat* knockdown cells. MOVAS-1 cells were treated with *Gpat1* and *Gpat4* shRNA. A single colony was isolated from MOVAS-1 cells infected with each lentivirus in the presence of puromycin. B) GPAT activity in *Gpat* knockdown cells. Total GPAT activity was measured in total cell lysates of *Gpat1* and *Gpat4* knockdown MOVAS-1 cells. C) Stearate-induced mineralization in *Gpat1* and *Gpat4* knockdown cells. *Gpat1* and *Gpat4* knockdown cells were treated with 200 μM stearate (18:0) for 7 days. D and E) SCDi-induced mineralization in *Gpat1* and *Gpat4* knockdown cells. *Gpat1* and *Gpat4* knockdown cells were treated with either vehicle or 300 nM SCDi for 7 days. Cells were stained with Alizarin red. F) *Ocn*, G) *Opn* and H)

PiT1 mRNA levels in *Gpat*1 and *Gpat4* knockdown cells treated with SCDi. *Gpat1* and *Gpat4* knockdown cells were treated with 300 nM SCDi for 24 hours. I) Phosphate uptake of *Gpat4* knockdown cells treated with SCDi for 16 hours. J) Immunoblot analysis of stearate-induced ER stress markers in *Gpat4* knockdown cells. *Gpat4* knockdown cells were treated with SCDi for 24 hours. K) Immunoblot analysis of SCDi-induced ER stress markers in *Gpat4* knockdown cells. *Gpat4* knockdown cells were treated with 300 nM SCDi for 24 hours. L-N) mRNA levels of ER stress markers such as *Atf4*, *Chop* and *sXbp*-1 in *Gpat1* and *Gpat4* knockdown cells treated with SCDi. *Gpat1* and *Gpat4* knockdown cells were treated with 300 nM SCDi for 24 hours. White colmun; empty shRNA, Red column; *Gpat4* shRNA, Black column; *Gpat1* shRNA **p<0.01* (one-way ANOVA).

Supplemental Figure 6. Human *GPAT4* overexpression augments SFA induced-mineralization, osteogenic differentiation and ER stress in VSMCs. A) Immunoblot analysis of GPAT4. MOVAS-1 cells overexpressing human *GPAT4* were generated using a Tet-ON system. MOVAS-1 cells were treated with lentivirus containing tetR and human *GPAT4*. A single colony was isolated from MOVAS-1 cells infected with lentivirus in the presence of hygromycin and zeocin. MOVAS-1 cells containing *GPAT4* were treated with either vehicle or 1 mg/ml doxycycline (Dox) for 24 hours. B) GPAT activity. MOVAS-1 cells containing human *Gpat4* were treated with either vehicle or 1 mg/ml Dox for 24 hours. Total GPAT activity was measured in the total cell lysates of *GPAT4* overexpressed MOVAS-1 cells. C) Stearate and SCDi-induced mineralization in *GPAT4* overexpressed cells. MOVAS-1 cells containing *GPAT4* were treated with either vehicle or 1 mg/ml Dox for 24 hours and then treated with 200 μM 18:0 and 300nM SCDi for 7 days. D) *Alp* and E) *PiT1* mRNA levels in *Gpat4* overexpressed cells. F) Phosphate uptake in *GPAT4* overexpressed cells. MOVAS-1 cells containing *Gpat4* were treated with 1 mg/ml Dox for 24 hours and then treated with 300nM SCDi for 24 hours. G) *Atf4* and H) *Chop* mRNA levels in *GPAT4* overexpressed cells. I) Immunoblot analysis of ER stress markers. MOVAS-1 cells containing *GPAT*4 were treated with 1 mg/ml Dox for 24 hours and then treated with 300nM SCDi for 24 hours. White column; without Dox treatment, Black column; with Dox treatment, **p<0.01* (one-way ANOVA).

Supplemental Figure 7. *Agpat3* and *Agpat5* knockdowns inhibit SFA-induced mineralization, osteogenic differentiation and ER stress in VSMCs. A) SCD inhibition induced-mineralization in *Agpat3* and *Agpat5* knockdown cells. *Agpat3* and *Agpat5* knockdown

cells were treated with 300nM SCDi for 7 days in the presence of 2.0 mM phosphate. The white bar, black bar and red bar indicate MOVAS-1 cells treated with empty shRNA, *Agpat3* shRNA and *Agpat5* shRNA, respectively. B) Alizarin red staining in *Agpat3* knockdown cells treated with SCDi. *Agpat3* knockdown VSMCs cells were treated with 300 nM SCDi for 7 days in the presence of 2.0 mM phosphate and stained with Alizarin red. C) *Alp*, D) *Ocn* and E) *PiT1* mRNA levels in *Agpat3* knockdown cells treated with SCDi. F) *Alp*, G) *Ocn* and H) *PiT1* mRNA levels in *Agpat5* knockdown cells treated with SCDi. *Agpat3* and *Agpat5* knockdown cells were treated with 300 nM SCDi for 24 hours. I) Immunoblot analysis of SCDi-induced ER stress markers in *Agpat3* knockdown cells. J) Immunoblot analysis of SCDi- induced ER stress markers in *Agpat5* knockdown cells. *Agpat3* and *Agpat5* knockdown cells were treated with SCDi for 24 hours. White column; Empty shrNA, Black column; *Agpat3* shRNA, Red column; *Agpat5* shRNA. **p<0.01* (one-way ANOVA or 2 tailed Student's t-test).

Supplemental Figure 8. *Lipin2* knockdown augments SFA-induced mineralization, osteogenic differentiation and ER stress in VSMCs. A) *Lipin* isoform expression. Levels of *Lipin* isoform mRNA were analyzed by real-time qPCR with an absolute standard curve method using plasmids containing a full length of each *Lipin* cDNA. ND; not detected. B) mRNA levels of *Lipin2* in *Lipin2* knockdown MOVAs-1 cells. MOVAS-1 cells were treated with *Lipin2* shRNA. A single colony was isolated from MOVAS-1 cells infected with each lentivirus in the presence of puromycin. C) PAP activity in *Lipin2* knockdown cells. Total PAP activity was measured in the total cell lysates of *Lipin2* knockdown MOVAS-1 cells. D) Stearate and SCDi induced-mineralization in *Lipin2* knockdown cells. Cells were treated with 200 μM 18:0 and 300nM SCDi for 7 days. The white bar and black bar indicate MOVAS-1 cells treated empty shRNA and *Lipin2* shRNA, respectively. E) *Ocn*, F) *Opn* and G) *PiT1* mRNA levels in Lipin2 knockdown cells. H-J) mRNA Levels of ER stress markers such as *Atf4*, *Chop* and *sXbp-1* in *Lipin2* knockdown cells were treated with SCDi. *Lipin2* knockdown cells were treated with 300 nM SCDi for 24 hours. K) Immunoblot analysis of ER stress markers. Cells were treated with either vehicle or 300nM SCDi for 24 hours. White column; Empty shRNA, Black column; *Lipin2* shRNA. **p<0.01* (2 tailed Student's t-test).

Supplemental Figure 9. Stearic but not oleic acid preferentially accumulates as PA in the ER. A) Autoradiography quantification of ^{14}C-stearic acid (18:0) and oleic acid (18:1) incorporation into the lipid fraction in human VSMCs treated with SCDi. Human VSMCs were

pre-treated with SCDi for 2 hours and then incubated with ^{14}C-18:0 and ^{14}C-18:1 for 6 hours in the presence/absence of SCDi. Total lipids isolated from total cell lysate (3 mg protein) were separated on a boric acid-coated TLC. B) Quantification of ^{14}C-oleic acid (18:1) incorporation into the lipid fraction in VSMCs treated with SCDi. C) Levels of PA species in the medial layer of aortas from DBA/2J with sham operations and DBA/2J mice with 5/6 nephrectomies (nx). 8-week-old DBA/2J male mice fed a chow diet (N=6) were 5/6 nephrectomized or sham-operated and fed a Western diet (TD110198, Harlan Teklad) for 10 weeks. Eighteen-week-old male mice were sacrificed after a 4 hour fasting. D) Absolute levels of PA species in the ER fraction of VSMCs treated with SCDi. Human VSMCs were treated with SCDi for 12 hours. ER fraction was isolated using a sucrose gradient ultracentrifugation. PA levels were analyzed by LC-MS/MS. ***p<0.001* (2 tailed Student's t-test).

Supplemental Figure 10. Generation of SMC-*Scd1/2* conditional knockout (cKO) mice. A) Scheme of targeting construct design of the *Scd2* locus. Triangles and circles indicate the *loxP* site and the *FRT* site, respectively. *Scd2* cKO mice were backcrossed 10 times with C57Bl6 and bred with *Rosa26-FLP* transgenic mice for removing the *PGK-NEO* cassette. B) Strategy for the generation of SMC-*Scd1/2* knockout (KO) mice and control mice. Mice were sacrificed after 12 weeks of tamoxifen injections.