Additional files

Figure S1. Pharmacological inhibition or shRNA mediated knockdown of ABHD6 limits the invasion and migration of NSCLC cells without consistent effects on proliferation rates.

a) IHC for MAGL and ABHD6 in rat brain tissues.

b) Protein levels of ABHD12 in NSCLC cell lines, rat tissues, WAT, and INS. n = 3/group.

c) Immunofluorescence of MAGL and ABHD6 in A549 cells.

d) Proliferation of NSCLC cells with or without 10 μM WWL70 treatment. n = 5/group.

e) Proliferation of shControl, shABHD6 and parental SPC-A-1 and A549 cells and Control, ABHD6-OE, and parental H1650 and H1975 cells. n = 5/group.

f, g) Invasion f) and migration g) of H1975 and H1650 cells with or without 10μM WWL70 treatment. n = 5/group. *P < 0.05 (Student's t-test) versus parental group.

h, i) Invasion h) and migration i) of shControl, shABHD6 and parental H1975 and H1650 cells. n = 5/group. *P < 0.05 (one-way ANOVA test) versus shControl group. Technical replicate with n =3. Data are presented as means ± SD.

Figure S2. Pharmacological inhibition of MAGL fails to affect invasion and migration of NSCLC cells, while ABHD6 silencing reduced metastasis and angiogenesis in the cells.

a, b) Invasion a) and migration b) of SPC-A-1 and A549 cells with or without 1μM JZL84 treatment. n = 5/group. Technical replicate with n = 3.

c) Tumor growth after subcutaneous injection with shControl, shABHD6, and parental SPC-A-1 and A549 cells (second cohort). n = 4-5/group. $*P < 0.05$; $**P < 0.01$ (one-way ANOVA test) versus shControl group.

d) Metastatic seeding to the lung of shControl/shABHD6 SPC-A-1 and A549 cells 7 weeks after intravenous transplantation (second cohort). Red arrows indicate cancer cell seeding.

e) Metastatic seeding to the lung of shControl/shABHD6 SPC-A-1 and A549 cells 2 days after intravenous transplantation, quantified by flow cytometry. n = 8/group. $*P < 0.05$; $**P < 0.01$ (Student's t-test) versus shControl group.

f) Angiogenesis in NSCLC cells *in vivo.* n = 4-5/group. Technical replicate with n = 2.

g) Proliferation of shControl/shABHD6 SPC-A-1 and A549 cells seeded in the lung, quantified by flow cytometry. n = 4/group. Normalized data from two independent experiments is shown. Technical replicate with n = 3.

h) A figure exemplified the gating strategy of flow cytometry was provided.

Data are presented as means ± SD.

Figure S3. ABHD6 blockade impairs EMT process in NSCLC.

a) Expression of EMT markers in shControl/shABHD6 NSCLC cells. n = 4/group. Technical replicate with n = 3.

b) Expression of EMT markers in tumor xenograft derived from subcutaneously injected shControl/shABHD6 SPC-A-1 and A549 cells. n = 4/group. Technical replicate with n = 2.

c) Tumor growth after subcutaneous injection with Control, ABHD6-OE, and parental H1975 and H1650 cells (second cohort). n = 4-5/group. $^{*}P < 0.05$;

$^{**}P < 0.01$ (one-way ANOVA test) versus Control group.

d) Metastatic seeding to the lung of Control/ABHD6-OE SPC-A-1 and A549 cells 7 weeks after intravenous transplantation (second cohort).

Data are presented as means ± SD.

Figure S4. Invasion and migration of NSCLC cells with or without CB1/CB2 receptor antagonists treatment.

a, b) Invasion a) and migration b) of shControl/shABHD6 SPC-A-1 and A549 cells with or without 50 nM AM251 treatment. c, d) Invasion c) and migration d) of shControl/shABHD6 SPC-A-1 and A549 cells with or without 50 nM AM630 treatment. n = 5/group. $^{*}P < 0.05$; $^{**}P < 0.01$ (one-way ANOVA test) versus shControl group. $^{\#}P < 0.05$; $^{\#\#}P < 0.01$ (one-way ANOVA test) versus shABHD6 group. Technical replicate with n = 3.

Data are presented as means ± SD.

Figure S5. Endocannabinoid signalling contributes little to ABHD6 involved pathophysiology in NSCLC.

a, b) Intracellular levels of AA and 2-AG in shControl/shABHD6 SPC-A-1 and A549 cells. n = 5/group. Technical replicate with n =3.

c, d) Invasion c) and migration d) of shControl/shABHD6 SPC-A-1 and A549 cells treated with or without exogenous 50 μM AA treatment. n = 5/group. Technical replicate with n = 3.

e, f) Tumor growth of SPC-A-1 and A549 cells bearing mice fed with or without AA (1.1g/kg body weight). n = 5/group. Technical replicate with n = 2.

g) Levels of lipid metabolites in SPC-A-1 and A549 cells.

Data are presented as means ± SD.

Figure S6. MAGs regulate EMT pathway and act as PPARα/γ ligands, and PPARα/γ antagonists suppress the elevated expressions of PPARα/γ target genes in shABHD6 NSCLC cells.

a) Expression of EMT markers in SPC-A-1 and A549 cells with or without C16:0 MAG (10 μM) or C18:1 MAG (10 μM) treatment. n = 5/group. Technical replicate with n = 3.

b) Transactivation of PPARα, PPARβ, or PPARγ by C18:1 MAG (10 μM) or C16:0 MAG (10 μM). PPAR transactivation assay was done in 293T cells, transfected with plasmids expressing PPARα, PPARβ, or PPARγ, using dual luciferase PPRE reporter assay. n = 3/group. *$P < 0.05$; **$P < 0.01$; ***$P < 0.001$

(one-way ANOVA test) versus vehicle (DMSO) group. Technical replicate with n = 3.

c, d) Expression of PPARα and PPARγ target genes in shControl/shABHD6 SPC-A-1 and A549 cells, which can be suppressed by 1μM GW6471 c) or 1μM T0070907 d) treatments. n = 5/group. *P < 0.05; **P < 0.01; *** P < 0.001 (one-way ANOVA test) versus shControl group. $^{\#}P$ < 0.05; $^{\#\#}P$ < 0.01; $^{\#\#\#}P$ < 0.001 (one-way ANOVA test) versus shABHD6 group. Technical replicate with n = 3.

e) Expression of EMT markers after treatment by antagonist of PPARγ or PPARγ in NSCLC cells. n = 5/group. *P < 0.05; **P < 0.01; *** P < 0.001 (one-way ANOVA test) versus parental group. Technical replicate with n =3.

f) ABHD6 blockade impairs the tumor growth, which can be rescued by GW6471 (1 mg/kg body weight) and T0070907 (1 mg/kg body weight) treatments in SPC-A-1 and A549 cells (second cohort). n = 5/group. *P < 0.05 (one-way ANOVA test) versus shControl group. $^{\#}P$ < 0.05; $^{\#\#}P$ < 0.01 (one-way ANOVA test) versus shABHD6 group. Data are presented as means ± SD.

Figure S1

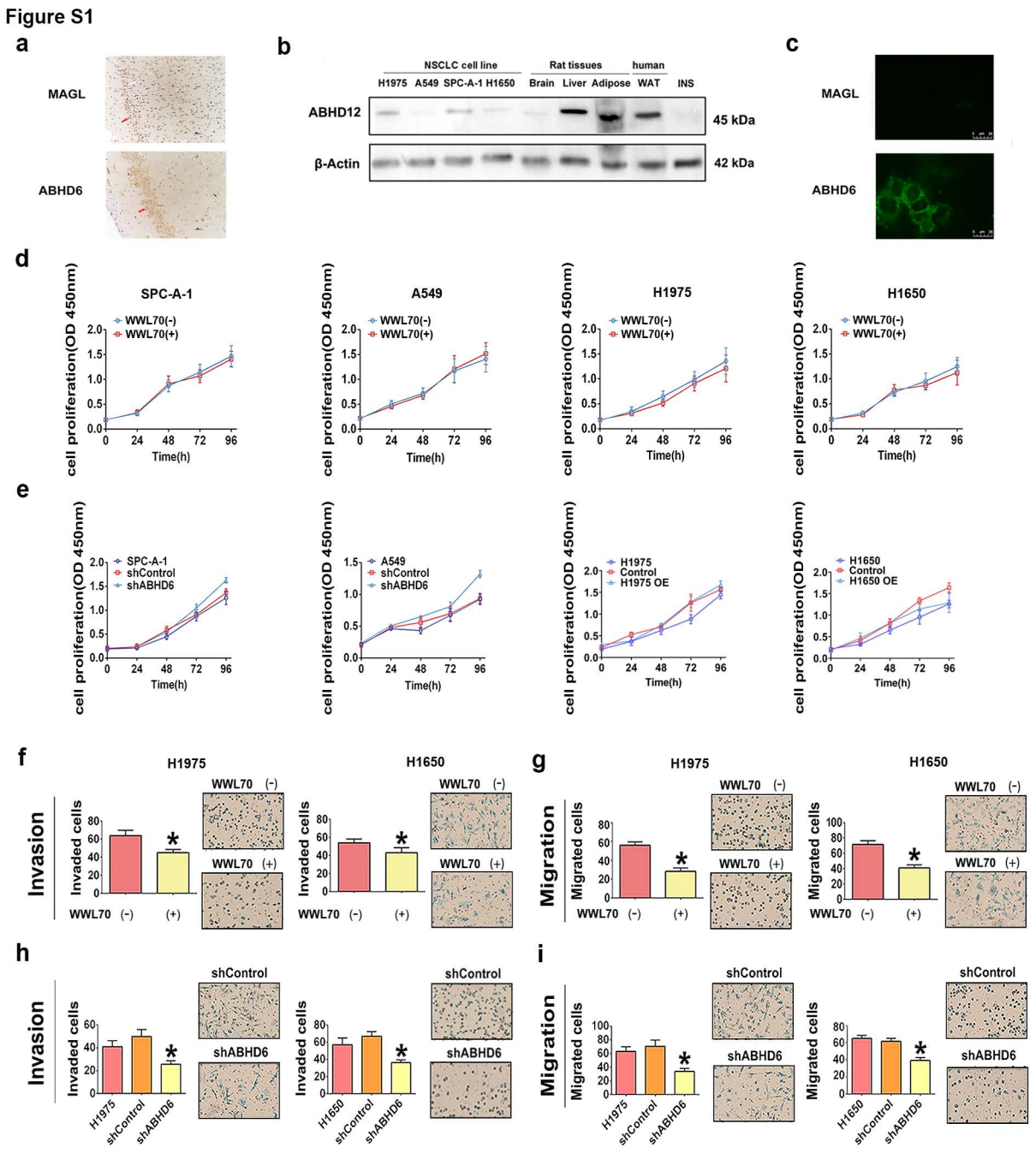
a
MAGL
ABHD6
b
NSCLC cell line
H1975 A549 SPC-A-1 H1650
Rat tissues
Brain Liver Adipose WAT
human
INS
ABHD12
45 kDa
β-Actin
42 kDa
c
MAGL
ABHD6
d
SPC-A-1
A549
H1975
H1650
WWL70(-)
WWL70(+)
cell proliferation(OD 450nm)
Time(h)
e
SPC-A-1
shControl
shABHD6
A549
H1975
Control
H1975 OE
H1650
H1650 OE
f
Invasion
H1975
H1650
Invaded cells
WWL70 (-)
WWL70 (+)
g
Migration
Migrated cells
h
Invasion
shControl
shABHD6
i
Migration

Figure S2

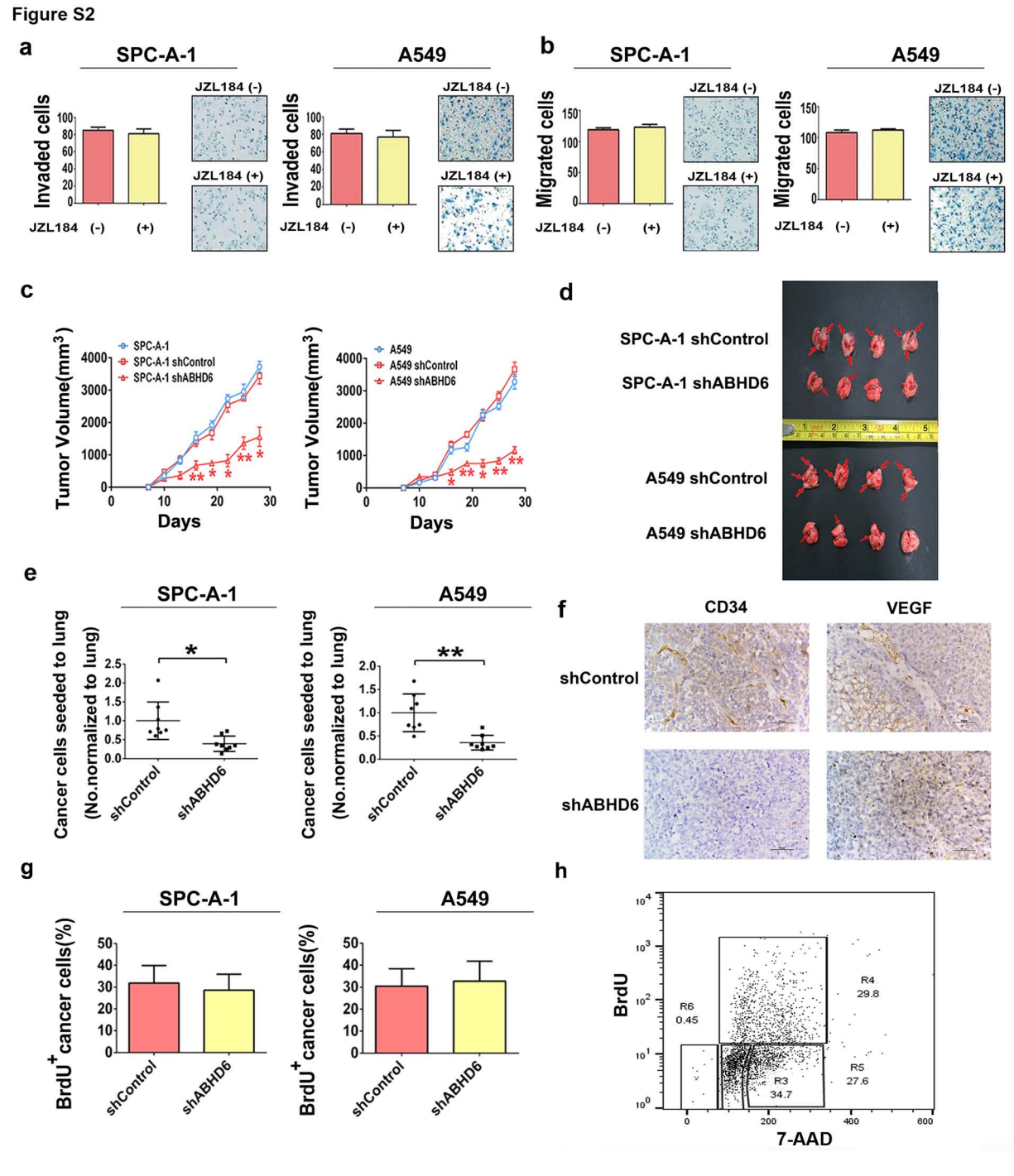
a
SPC-A-1
A549
Invaded cells
JZL184 (-)
JZL184 (+)
JZL184 (-)
(+)
b
SPC-A-1
A549
Migrated cells
JZL184 (-)
JZL184 (+)
JZL184 (-)
(+)
c
Tumor Volume(mm3)
SPC-A-1
SPC-A-1 shControl
SPC-A-1 shABHD6
A549
A549 shControl
A549 shABHD6
Days
d
SPC-A-1 shControl
SPC-A-1 shABHD6
A549 shControl
A549 shABHD6
e
SPC-A-1
A549
Cancer cells seeded to lung
(No.normalized to lung)
shControl
shABHD6
f
CD34
VEGF
shControl
shABHD6
g
SPC-A-1
A549
BrdU+cancer cells(%)
shControl
shABHD6
h
BrdU
7-AAD
R6
0.45
R4
29.8
R3
34.7
R5
27.6

Figure S3

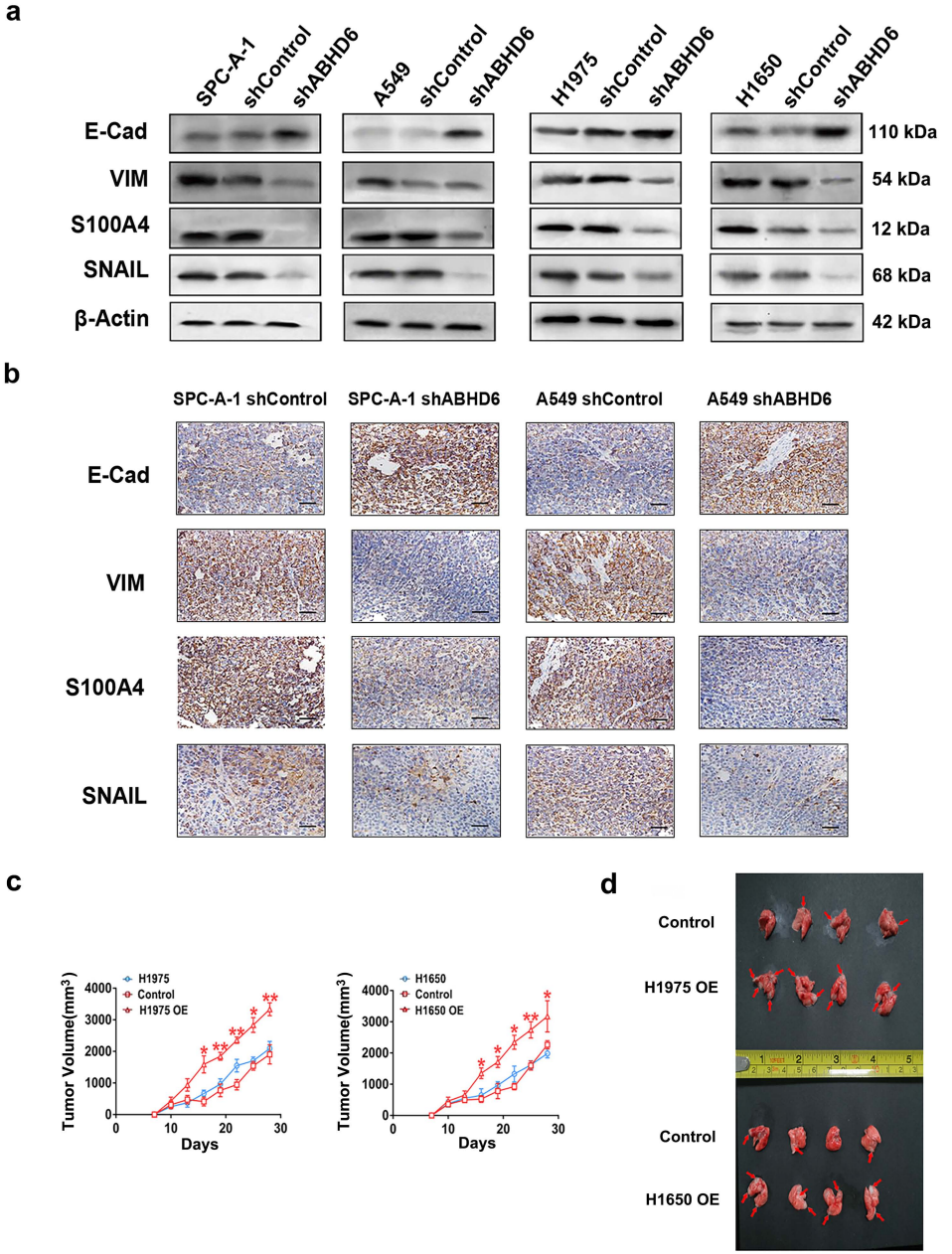
a
SPC-A-1
shControl
shABHD6
A549
shControl
shABHD6
H1975
shControl
shABHD6
H1650
shControl
shABHD6
E-Cad
VIM
S100A4
SNAIL
β-Actin
110 kDa
54 kDa
12 kDa
68 kDa
42 kDa
b
SPC-A-1 shControl
SPC-A-1 shABHD6
A549 shControl
A549 shABHD6
E-Cad
VIM
S100A4
SNAIL
c
H1975
Control
H1975 OE
Tumor Volume(mm3)
Days
H1650
Control
H1650 OE
Tumor Volume(mm3)
Days
d
Control
H1975 OE
Control
H1650 OE

Figure S4

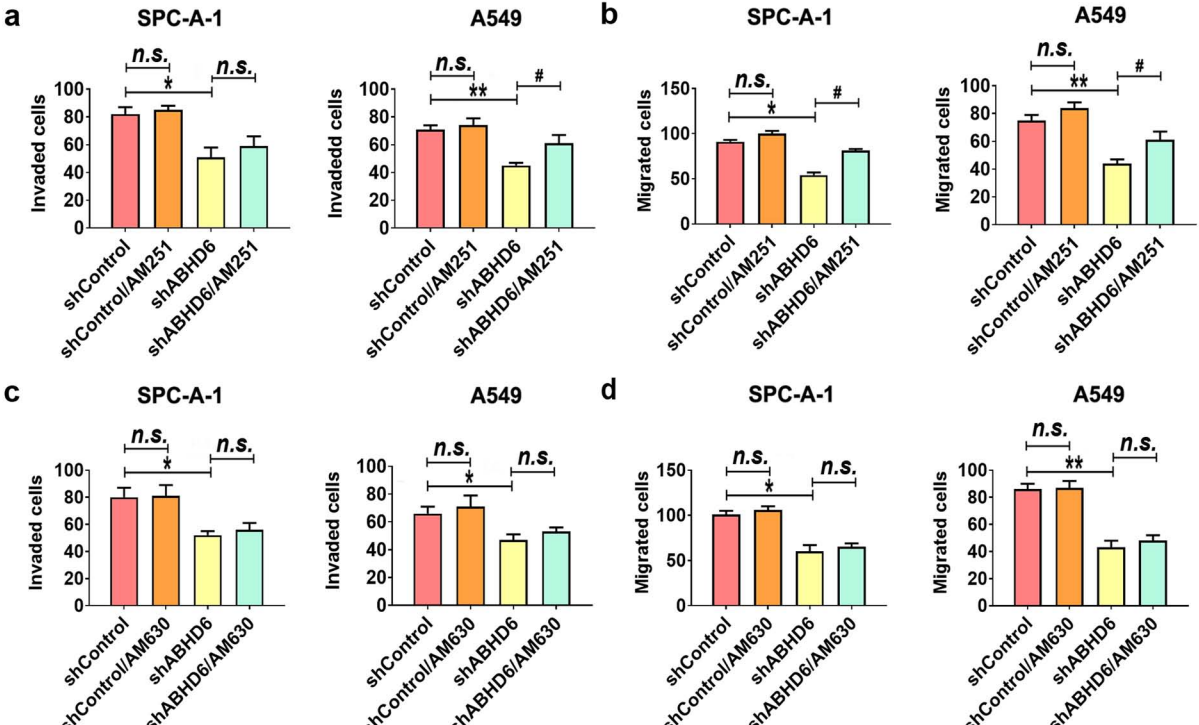
a
SPC-A-1
A549
b
SPC-A-1
A549
Invaded cells
Invadedd cells
Migrated cells
n.s.
*
**
#
shControl
shControl/AM251
shABHD6
shABHD6/AM251
c
SPC-A-1
A549
d
SPC-A-1
A549
shControl/AM630
shABHD6/AM630

Figure S5

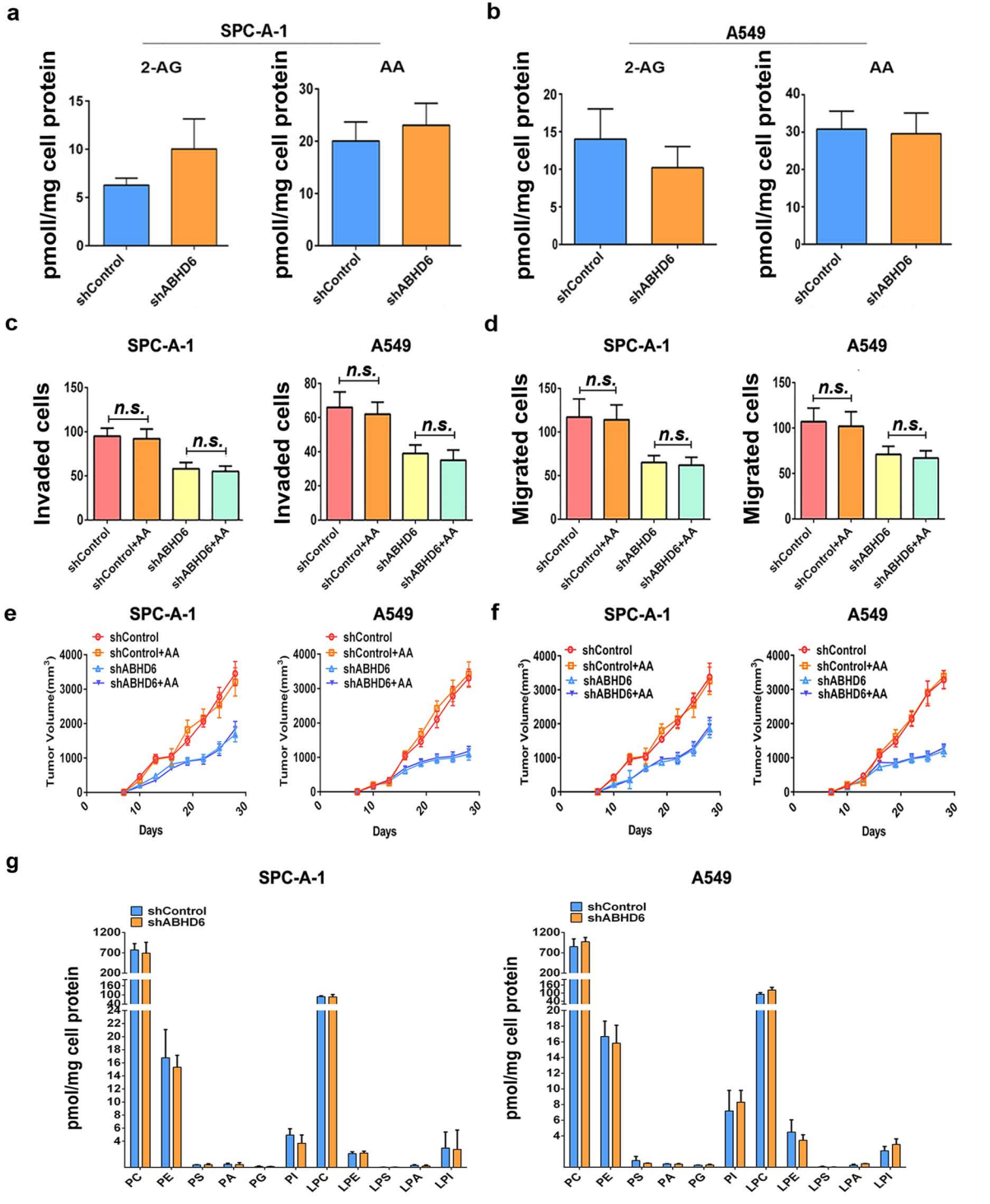
a
SPC-A-1
2-AG
AA
pmol/mg cell protein
shControl
shABHD6
b
A549
2-AG
AA
pmol/mg cell protein
shControl
shABHD6
c
SPC-A-1
A549
Invaded cells
n.s.
shControl
shControl+AA
shABHD6
shABHD6+AA
d
SPC-A-1
A549
Migrated cells
n.s.
shControl
shControl+AA
shABHD6
shABHD6+AA
e
SPC-A-1
A549
shControl
shControl+AA
shABHD6
shABHD6+AA
Tumor Volume(mm3)
Days
f
SPC-A-1
A549
shControl
shControl+AA
shABHD6
shABHD6+AA
Tumor Volume(mm3)
Days
g
SPC-A-1
A549
shControl
shABHD6
pmol/mg cell protein
PC
PE
PS
PA
PG
PI
LPC
LPE
LPS
LPA
LPI

Figure S6

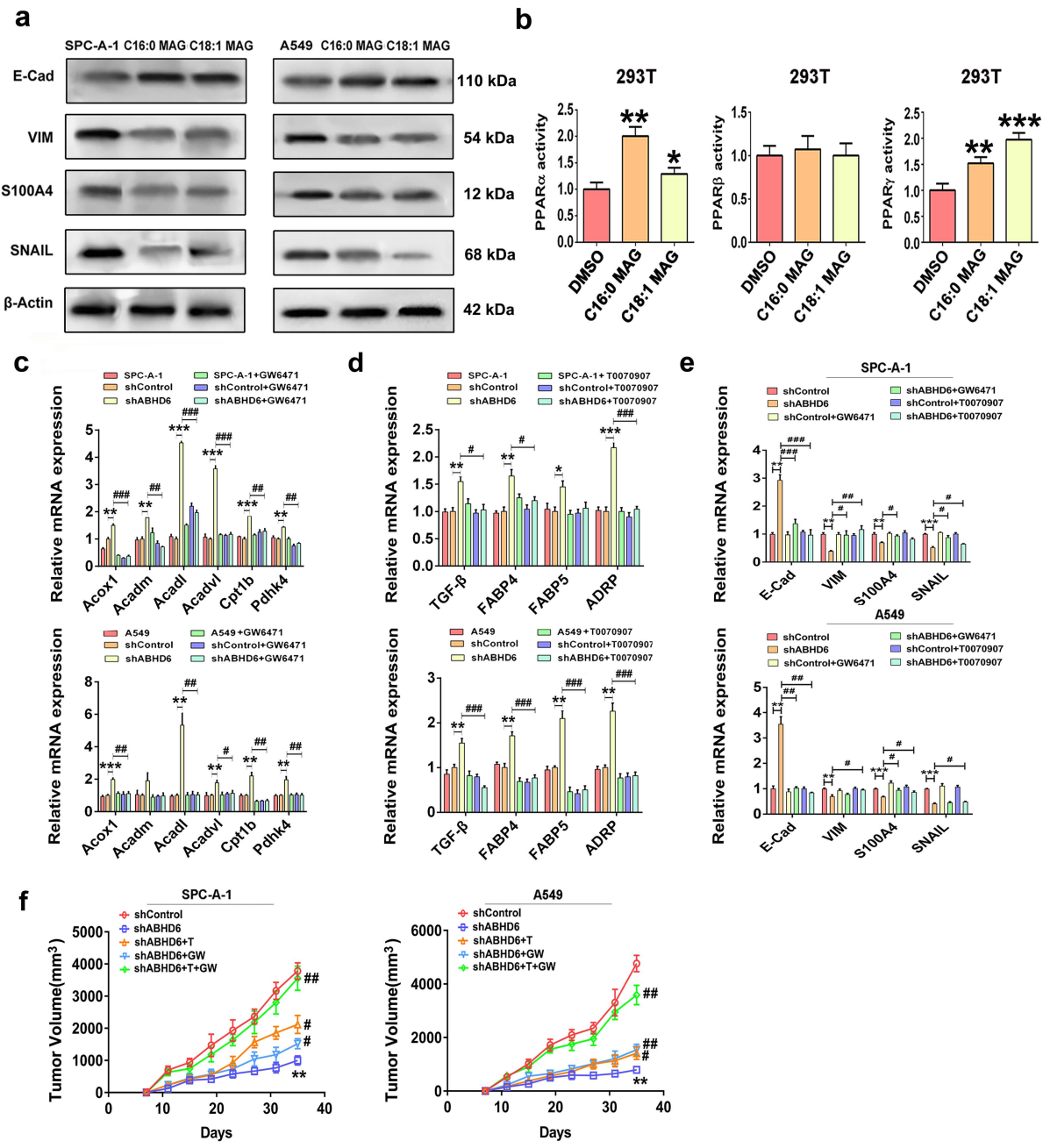
a
SPC-A-1 C16:0 MAG C18:1 MAG
A549 C16:0 MAG C18:1 MAG
E-Cad
VIM
S100A4
SNAIL
β-Actin
110 kDa
54 kDa
12 kDa
68 kDa
42 kDa
b
293T
293T
293T
PPARα activity
PPARβ activity
PPARγ activity
DMSO
C16:0 MAG
C18:1 MAG
c
SPC-A-1
shControl
shABHD6
SPC-A-1+GW6471
shABHD6+GW6471
A549
A549+GW6471
Relative mRNA expression
Acox1
Acadm
Acadl
Acadvl
Cpt1b
Pdhk4
d
SPC-A-1+T0070907
shControl+T0070907
shABHD6+T0070907
A549+T0070907
TGF-β
FABP4
FABP5
ADRP
e
SPC-A-1
A549
shControl+GW6471
E-Cad
VIM
S100A4
SNAIL
f
SPC-A-1
A549
shABHD6+T
shABHD6+GW
shABHD6+T+GW
Tumor Volume(mm3)
Days

Table S1. The clinical characteristics of these patients in a concise excel table.

Point Loca	Pathology Number	Pathological Type	Clinic Symptoms	Survival Time(	Month	death	sex	age	smoke	Histological type	Differentiation	T stage
D8	606674	carcinoma	health examination	13.5	13.5	death	male	50	Yes	adenocarcinoma	low	T1a
A6	706309	carcinoma	chest tightness	72.33	62	survival	male	52	No	squamous cell carcinoma	high	T1a
F6	711602	carcinoma	health examination	68.67	62	survival	male	79	No	adenosquamous carcinoma.	medium	T1a
F1	609009	carcinoma	health examination	50.43	50.43	survival	female	63	No	adenocarcinoma	low	T1a
C3	910090	carcinoma	bloody sputum	47.02	47.02	survival	male	72	No	squamous cell carcinoma	low	T1a
B2	907126	carcinoma	irritable cough	20.77	20.77	death	female	83	No	adenosquamous carcinoma.	medium	T1b
D7	817097	carcinoma	weak and emaciation	11	11	death	male	62	No	squamous cell carcinoma	medium	T1b
B4	615173	carcinoma	bloody sputum	77.73	62	survival	male	63	Yes	squamous cell carcinoma	medium	T1b
G6	712394	carcinoma	health examination	60.17	60.17	survival	male	74	Yes	squamous cell carcinoma	low	T1b
E7	607167	carcinoma	health examination	51.53	51.53	survival	female	35	No	adenocarcinoma	medium	T1b
D6	904371	carcinoma	health examination	50.28	50.28	survival	male	71	No	squamous cell carcinoma	low	T1b
B5	906435	carcinoma	chest pain	49.57	49.57	survival	male	61	No	squamous cell carcinoma	medium	T1b
E2	907862	carcinoma	bloody sputum	48.37	48.37	survival	male	67	Yes	squamous cell carcinoma	low	T1b
F3	911754	carcinoma	bloody sputum	46.37	46.37	survival	male	61	No	squamous cell carcinoma	medium	T1b
E4	610576	carcinoma	health examination	62	62	death	male	65	No	adenosquamous carcinoma.	high	T2a
D9	608181	carcinoma	health examination	31.76	31.76	death	female	76	No	adenocarcinoma	low	T2a
F3	608850	carcinoma	chest pain	22.77	22.77	death	male	66	Yes	squamous cell carcinoma	low	T2a
A3	612416	carcinoma	health examination	9.6	9.6	death	male	81	Yes	adenocarcinoma	medium	T2a
C1	510128	carcinoma	hemoptysis	5	5	death	male	69	No	squamous cell carcinoma	low	T2a
F4	609118	carcinoma	bloody sputum	82.17	62	survival	male	62	Yes	adenocarcinoma	low	T2a
C8	715953	carcinoma	health examination	65.9	62	survival	male	73	No	adenosquamous carcinoma.	high	T2a
D1	811361	carcinoma	health examination	65	62	survival	male	63	Yes	adenosquamous carcinoma.	high	T2a
G9	805861	carcinoma	cough	61.27	61.27	survival	female	51	No	adenocarcinoma	low	T2a
D10	809285	carcinoma	health examination	59.23	59.23	survival	male	69	No	squamous cell carcinoma	low	T2a
E1	608359	carcinoma	health examination	50.63	50.63	survival	female	65	Yes	adenocarcinoma	medium	T2a
B4	912773	carcinoma	cough	45.83	45.83	survival	male	62	Yes	squamous cell carcinoma	low	T2a
A9	613765	carcinoma	health examination	45.76	45.76	survival	female	50	No	squamous cell carcinoma	medium	T2a
A10	819226	carcinoma	cough	20.01	20.01	death	male	80	No	squamous cell carcinoma	medium	T2b
A3	510902	carcinoma	health examination	44.8	44.8	death	male	69	No	squamous cell carcinoma	medium	T2b
B9	613062	carcinoma	bloody sputum	30	30	death	male	63	Yes	squamous cell carcinoma	low	T2b
F9	509735	carcinoma	health examination	26.83	26.83	death	male	53	Yes	squamous cell carcinoma	medium	T2b
B1	504113	carcinoma	health examination	21.27	21.27	death	male	62	No	squamous cell carcinoma	low	T2b
G3	610257	carcinoma	health examination	81.27	62	survival	male	60	Yes	adenosquamous carcinoma.	high	T2b
B2	602683	carcinoma	cough	65	62	survival	male	72	Yes	adenocarcinoma	medium	T2b
B9	514036	carcinoma	health examination	57.43	57.43	survival	male	65	No	squamous cell carcinoma	medium	T2b
G1	811776	carcinoma	health examination	50	50	death	male	71	Yes	squamous cell carcinoma	low	T2b
G4	901620	carcinoma	bloody sputum	51.97	51.97	survival	male	68	Yes	squamous cell carcinoma	high	T3
F8	803005	carcinoma	bloody sputum	45.57	45.57	death	male	63	No	squamous cell carcinoma	medium	
A9	803207	carcinoma	health examination	62.67	62	survival	female	53	No	adenosquamous carcinoma.	high	
C9	803860	carcinoma	hemoptysis	62.6	62	survival	male	67	No	squamous cell carcinoma	low	
A7	511735	carcinoma	health examination	48.2	48.2	death	female	72	Yes	squamous cell carcinoma	low	T1a
E8	802190	carcinoma	chest pain	44.6	44.6	death	male	59	No	squamous cell carcinoma	low	T1a
D3	910855	carcinoma	bloody sputum	58.23	58.23	survival	male	58	Yes	squamous cell carcinoma	medium	T1b
A8	816113	carcinoma	cough	55	55	death	female	46	No	adenosquamous carcinoma.	high	T2a
F8	815646	carcinoma	bloody sputum	50	50	death	male	57	No	squamous cell carcinoma	low	T2a
C7	604848	carcinoma	health examination	25.16	25.16	death	male	75	No	adenocarcinoma	medium	T2a
A9	511786	carcinoma	health examination	18.16	18.16	death	male	55	Yes	squamous cell carcinoma	medium	T2a
A10	807054	carcinoma	bloody sputum	7.7	7.7	death	male	70	No	squamous cell carcinoma	medium	T2a
C5	700633	carcinoma	chest pain	6.43	6.43	death	male	47	No	adenocarcinoma	low	T2a

C1	810901	carcinoma	cough	58.23	58.23	survival	male	73	Yes	adenosquamous carcinoma.	medium	T2a
A3	909400	carcinoma	irritable cough	47.63	47.63	survival	female	75	No	adenosquamous carcinoma.	high	T2a
G4	613154	carcinoma	health examination	40.13	40.13	death	female	68	Yes	adenocarcinoma	medium	T2b
B8	812920	carcinoma	bloody sputum	17	17	death	male	54	Yes	squamous cell carcinoma	low	T3
G7	815101	carcinoma	bloody sputum	55.4	55.4	survival	male	39	No	adenosquamous carcinoma.	high	T3
G6	608843	carcinoma	health examination	50.63	50.63	survival	male	66	Yes	squamous cell carcinoma	medium	T3
B1	613818	carcinoma	health examination	45.73	45.73	survival	female	40	Yes	adenocarcinoma	medium	T1a
A5	612662	carcinoma	health examination	14.43	14.43	death	male	60	No	squamous cell carcinoma	low	T1b
A2	907024	carcinoma	bloody sputum	31.97	31.97	death	male	77	Yes	squamous cell carcinoma	low	T2a
C4	912938	carcinoma	health examination	7.33	7.33	death	male	77	No	squamous cell carcinoma	medium	T2a
D2	604009	carcinoma	cough	85.77	62	survival	male	45	Yes	adenosquamous carcinoma.	medium	T2a
C10	809281	carcinoma	health examination	59.23	59.23	survival	female	62	No	adenosquamous carcinoma.	high	T2a
F7	716598	carcinoma	cough	7.13	7.13	death	female	54	No	squamous cell carcinoma	medium	T2b
B1	810762	carcinoma	chest pain	8.67	8.67	death	male	61	Yes	adenosquamous carcinoma.	low	T3
A6	903787	carcinoma	bloody sputum	45	45	death	male	60	No	adenocarcinoma	low	T4
A3	818185	carcinoma	hemoptysis	45	45	death	male	54	Yes	adenosquamous carcinoma.	high	T2a
F1	611879	carcinoma	health examination	47.93	47.93	survival	male	43	Yes	4	medium	T1b
C2	603258	carcinoma	bloody sputum	16.17	16.17	death	male	58	No	squamous cell carcinoma	low	T2a
A1	809594	carcinoma	cough	54.63	54.63	death	male	56	No	adenosquamous carcinoma.	high	T2a
A5	503788	carcinoma	health examination	18.5	18.5	death	male	68	Yes	squamous cell carcinoma	low	T1b
A3	503785	carcinoma	health examination	49.53	49.53	death	male	51	Yes	adenocarcinoma	medium	T2a
A1	503528	carcinoma	health examination	43.63	43.63	death	female	74	No	adenocarcinoma	medium	T1a
F1	508799	carcinoma	health examination	39.6	39.6	death	male	68	Yes	squamous cell carcinoma	low	T1b
E3	903134	carcinoma	chest pain	50.9	50.9	survival	male	61	No	adenosquamous carcinoma.		T1b
F2	907968	carcinoma	bloody sputum	48.4	48.4	survival	male	60	No	adenosquamous carcinoma.		T1a
C4	610256	carcinoma	health examination	26.13	26.13	death	male	56	No	adenocarcinoma	medium	T1b
E4	902250	carcinoma	cough	14.6	14.6	death	male	71	No	squamous cell carcinoma	medium	T2a
A4	608851	carcinoma	bloody sputum	49.9	49.9	death	female	47	No	adenosquamous carcinoma.	high	T2a
A5	901493	carcinoma	cough	51.86	51.86	survival	male	61	No	squamous cell carcinoma	low	T2b
G5	703206	carcinoma	bloody sputum	7.17	7.17	death	male	69	No	squamous cell carcinoma	medium	T3
A2	601753	carcinoma	chest pain	26	26	death	male	61	No	squamous cell carcinoma	medium	T1a
B3	614316	carcinoma	bloody sputum	30	30	death	male	74	No	squamous cell carcinoma	medium	T1b
C5	505590	carcinoma	health examination	64.13	62	survival	male	35	Yes	adenocarcinoma	medium	T2a
D4	902338	carcinoma	hemoptysis	51.47	51.47	survival	male	60	No	squamous cell carcinoma	low	T2a
E3	513682	carcinoma	health examination	57.76	57.76	survival	male	62	Yes	squamous cell carcinoma	medium	T3
B9	803709	carcinoma	health examination	62.43	62	survival	male	69	No	adenosquamous carcinoma.	high	T1a
E2	606231	carcinoma	bloody sputum	84.23	62	survival	male	62	No	squamous cell carcinoma	medium	T1b
F10	500083	carcinoma	bloody sputum	72	62	death	male	73	Yes	squamous cell carcinoma	medium	T2a
B1	608899	carcinoma	chest pain	30	30	death	male	57	Yes	adenosquamous carcinoma.	high	T2a
F7	606232	carcinoma	health examination	54.03	54.03	survival	male	52	Yes	adenocarcinoma	medium	T2a
A4	912333	carcinoma	health examination	46.07	46.07	survival	male	71	No	squamous cell carcinoma	medium	T2a
E1	900159	carcinoma	cough	52.73	52.73	survival	female	66	No	squamous cell carcinoma	low	T2a
E8	814791	carcinoma	chest pain	55.77	55.77	survival	male	65	No	squamous cell carcinoma	medium	T2b
A5	701189	carcinoma	bloody sputum	39.03	39.03	death	male	78	Yes	squamous cell carcinoma	medium	T1a
C9	505693	carcinoma	health examination	64.17	62	survival	male	58	Yes	adenocarcinoma	high	T1b
B10	808410	carcinoma	health examination	59.73	59.73	survival	male	71	No	squamous cell carcinoma	low	T1b
C9	615932	carcinoma	health examination	45.03	45.03	survival	female	59	Yes	adenocarcinoma	medium	T1b
E7	816409	carcinoma	bloody sputum	50	50	death	female	69	No	adenocarcinoma	low	T2a
D7	715382	carcinoma	bloody sputum	2.07	2.07	death	female	61	No	adenosquamous carcinoma.	high	T2a
D1	505748	carcinoma	health examination	64	62	survival	male	68	Yes	squamous cell carcinoma	medium	T2a
E3	910757	carcinoma	bloody sputum	46.9	46.9	survival	male	74	No	squamous cell carcinoma	medium	T2a

D5	700041	carcinoma	bloody sputum	2.02	2.02	death	male	75	No	adenocarcinoma	low	T3
F5	903300	carcinoma	bloody sputum	37.02	37.02	death	male	55	Yes	squamous cell carcinoma	low	T1b
D2	818291	carcinoma	health examination	2.43	2.43	death	male	74	Yes	adenosquamous carcinoma.	medium	T1b
E3	607869	carcinoma	bloody sputum	3.93	3.93	death	male	78	Yes	adenosquamous carcinoma.	high	T2a
C2	907306	carcinoma	cough	48.77	48.77	survival	male	53	No	squamous cell carcinoma	medium	T2a
B2	817524	carcinoma	hemoptysis	1	1	death	male	63	No	squamous cell carcinoma	low	T1a
A7	612721	carcinoma	health examination	30.4	30.4	death	female	55	No	adenocarcinoma	medium	T2a
D9	803961	carcinoma	cough	20.03	20.03	death	male	59	Yes	adenocarcinoma	medium	T2a
A2	818120	carcinoma	hemoptysis	25.47	25.47	death	male	55	No	squamous cell carcinoma	medium	T1a
D9	600203	carcinoma	bloody sputum	88.83	62	survival	male	71	No	squamous cell carcinoma	medium	T1a
E1	511496	carcinoma	bloody sputum	59.6	59.6	death	male	59	Yes	squamous cell carcinoma	medium	T2a
B7	504818	carcinoma	health examination	52.67	52.67	death	male	56	No	squamous cell carcinoma	medium	T2a
D5	902890	carcinoma	cough	50	50	death	female	59	No	adenosquamous carcinoma.	medium	T2a
B7	817729	carcinoma	bloody sputum	45	45	death	male	71	Yes	adenocarcinoma	medium	T2a
D9	506500	carcinoma	health examination	41.7	41.7	death	female	52	Yes	adenocarcinoma	high	T2a
F1	811461	carcinoma	health examination	16.33	16.33	death	male	65	Yes	adenosquamous carcinoma.	medium	T2a
G2	817858	carcinoma	hemoptysis	5.87	5.87	death	male	60	Yes	adenosquamous carcinoma.	low	T2a
F9	805350	carcinoma	bloody sputum	61.53	61.53	survival	male	51	Yes	squamous cell carcinoma	medium	T2a
F4	902248	carcinoma	hemoptysis	51.5	51.5	survival	male	73	Yes	squamous cell carcinoma	medium	T2a
C6	904163	carcinoma	bloody sputum	50.33	50.33	survival	male	68	No	squamous cell carcinoma	low	T2a
C8	812752	carcinoma	cough	50	50	death	male	76	No	squamous cell carcinoma	low	T2b
G5	903517	carcinoma	bloody sputum	45	45	death	male	67	No	squamous cell carcinoma	medium	T2b
C7	816942	carcinoma	bloody sputum	22.03	22.03	death	male	66	No	squamous cell carcinoma	medium	T2b
F1	511596	carcinoma	bloody sputum	91.37	62	survival	male	77	Yes	adenocarcinoma	medium	T3
F6	906355	carcinoma	bloody sputum	12.5	12.5	death	male	54	No	adenosquamous carcinoma.	medium	T4
A1	500651	carcinoma	chest pain	18.43	18.43	death	female	44	No	adenosquamous carcinoma.	medium	T1b
A1	605523	carcinoma	chest pain	68.63	62	death	male	64	No	squamous cell carcinoma	medium	T2a
C3	505443	carcinoma	health examination	34.23	34.23	death	male	61	Yes	squamous cell carcinoma	low	T2a
C1	505306	carcinoma	health examination	27.37	27.37	death	male	63	No	squamous cell carcinoma	low	T2a
D7	608015	carcinoma	health examination	27.86	27.86	death	male	70	No	adenocarcinoma	medium	T2b
G3	509430	carcinoma	health examination	5	5	death	male	75	No	squamous cell carcinoma	low	T1a
F9	906472	carcinoma	health examination	45	45	death	male	62	No	adenosquamous carcinoma.	medium	T1b
D1	504688	carcinoma	health examination	8.77	8.77	death	male	65	Yes	squamous cell carcinoma	low	T1b
F9	609954	carcinoma	health examination	34.46	34.46	death	male	71	Yes	squamous cell carcinoma	medium	T2a
D8	811973	carcinoma	cough	10.27	10.27	death	female	63	No	adenosquamous carcinoma.	medium	T2a
E5	615540	carcinoma	bloody sputum	16.03	16.03	death	male	62	Yes	adenosquamous carcinoma.	high	T2a
G9	818978	carcinoma	health examination	3.17	3.17	death	male	52	Yes	squamous cell carcinoma	medium	T2b
D1	600068	carcinoma	hemoptysis	88.93	62	survival	male	73	Yes	adenosquamous carcinoma.	high	T2b
E9	818361	carcinoma	health examination	18.77	18.77	death	male	71	Yes	squamous cell carcinoma	medium	T3
G8	803011	carcinoma	bloody sputum	4.07	4.07	death	male	61	No	adenocarcinoma	low	T2a
B3	818365	carcinoma	bloody sputum	53.77	53.77	survival	male	58	No	adenocarcinoma	low	T3
C7	615802	carcinoma	health examination	5.13	5.13	death	male	70	Yes	adenocarcinoma	medium	T1b
D7	509502	carcinoma	health examination	60.93	60.93	survival	female	68	No	adenocarcinoma	medium	T1b
G2	908046	carcinoma	health examination	40	40	death	male	67	No	squamous cell carcinoma	medium	T2a
A5	511597	carcinoma	health examination	13.33	13.33	death	female	73	Yes	squamous cell carcinoma	low	T2a
B1	512302	carcinoma	health examination	31.8	31.8	death	male	71	Yes	adenocarcinoma	medium	T2b
G1	509278	carcinoma	health examination	15.17	15.17	death	female	59	No	adenosquamous carcinoma.	high	T2b
A3	614552	carcinoma	hemoptysis	10	10	death	male	58	Yes	squamous cell carcinoma	medium	T2a
E1	513332	carcinoma	health examination	9.06	9.06	death	female	69	Yes	adenocarcinoma	low	T2a
E6	906084	carcinoma	cough	8.93	8.93	death	female	50	No	adenosquamous carcinoma.	low	T2a
E10	700117	carcinoma	bloody sputum	76.87	62	survival	female	55	Yes	adenosquamous carcinoma.	high	T2a

B3	909461	carcinoma	bloody sputum	14.03	14.03	death	male	58	Yes	adenosquamous carcinoma.	high	T3
C5	603586	carcinoma	health examination	53.97	53.97	survival	male	62	Yes	adenocarcinoma	high	T1a
C7	715311	carcinoma	health examination	66.03	62	survival	male	61	Yes	squamous cell carcinoma	medium	T1b
C6	710648	carcinoma	bloody sputum	15.93	15.93	death	male	69	No	squamous cell carcinoma	medium	T2a
B5	613889	carcinoma	health examination	35.7	35.7	death	male	64	Yes	adenosquamous carcinoma.	medium	T1a
B6	710917	carcinoma	chest pain	9.53	9.53	death	female	55	No	adenosquamous carcinoma.	medium	T1b
E7	508315	carcinoma	health examination	8.97	8.97	death	male	75	Yes	adenocarcinoma	medium	T2a
G5	610726	carcinoma	health examination	48.93	48.93	survival	male	62	Yes	squamous cell carcinoma	medium	T2a
G3	912061	carcinoma	health examination	27.77	27.77	death	male	52	No	adenosquamous carcinoma.	medium	T1a
B7	513939	carcinoma	health examination	47.53	47.53	death	male	48	Yes	squamous cell carcinoma	medium	T1b
F7	509170	carcinoma	health examination	44.23	44.23	death	male	72	Yes	squamous cell carcinoma	medium	T1b
A7	714856	carcinoma	hemoptysis	55.37	55.37	death	male	68	No	squamous cell carcinoma	medium	T2a
C1	514158	carcinoma	health examination	31.3	31.3	death	male	58	No	adenosquamous carcinoma.	high	T1a
B1	501269	carcinoma	cough	12.33	12.33	death	female	55	No	adenosquamous carcinoma.	medium	T2a
G5	509964	carcinoma	health examination	16.6	16.6	death	male	81	Yes	adenocarcinoma	medium	T2b
C7	505671	carcinoma	health examination	45.1	45.1	death	male	62	Yes	adenocarcinoma	medium	T2a
C9	713262	carcinoma	weak and emaciation	9.03	9.03	death	male	62	No	adenocarcinoma	medium	T1a
G1	508800	carcinoma	chest tightness	85	62	death	male	56	Yes	adenosquamous carcinoma.	medium	T1b
E5	508248	carcinoma	health examination	5.03	5.03	death	male	59	Yes	adenocarcinoma	low	T1b
D5	506045	carcinoma	health examination	63.93	62	survival	female	50	Yes	adenocarcinoma	medium	T1b
C2	818363	carcinoma	health examination	53.77	53.77	survival	male	45	No	squamous cell carcinoma	medium	T1b
E5	605689	carcinoma	health examination	14.56	14.56	death	male	74	Yes	adenosquamous carcinoma.	low	T2a
C5	615083	carcinoma	health examination	44.8	44.8	survival	male	58	Yes	adenocarcinoma	low	T2b
G3	610541	carcinoma	health examination	15.03	15.03	death	male	57	No	squamous cell carcinoma	high	T4
D3	910399	carcinoma	bloody sputum	40	40	death	female	73	No	squamous cell carcinoma	low	T4
E9	508693	carcinoma	health examination	14.76	14.76	death	female	74	Yes	adenocarcinoma	medium	T1b
B5	504687	carcinoma	health examination	64.8	62	survival	male	60	No	squamous cell carcinoma	medium	T1b
E3	608416	carcinoma	health examination	25.66	25.66	death	female	53	Yes	adenocarcinoma	low	T2a
D2	907407	carcinoma	bloody sputum	23	23	death	male	78	No	squamous cell carcinoma	medium	T2a
A7	503950	carcinoma	health examination	10.37	10.37	death	male	72	Yes	adenocarcinoma	high	T2a
B3	613888	carcinoma	health examination	45.7	45.7	survival	male	62	Yes	adenocarcinoma	medium	T2a
D3	506499	carcinoma	health examination	64.83	62	death	male	63	No	adenosquamous carcinoma.	high	T2b
A9	504008	carcinoma	health examination	57.33	57.33	death	female	56	No	adenocarcinoma	medium	T2a
B7	715083	carcinoma	cough	46.77	46.77	death	male	53	Yes	adenosquamous carcinoma.	medium	T2a
B6	903864	carcinoma	hemoptysis	36	36	death	male	61	No	adenocarcinoma	medium	T2a
G6	906357	carcinoma	bloody sputum	17.37	17.37	death	male	72	Yes	squamous cell carcinoma	medium	T2a
F2	606099	carcinoma	cough	21.2	21.2	death	male	64	Yes	adenocarcinoma	medium	T3
E6	711015	carcinoma	health examination	49.8	49.8	death	female	60	No	adenocarcinoma	medium	T1b
D3	606463	carcinoma	health examination	13.03	13.03	death	female	72	Yes	adenocarcinoma	medium	T2a
E9	804451	carcinoma	health examination	20.13	20.13	death	female	52	No	adenocarcinoma	low	T2a
D3	612151	carcinoma	cough	10	10	death	male	48	No	adenosquamous carcinoma.	low	T2b
A1	510669	carcinoma	health examination	13.76	13.76	death	female	73	No	adenocarcinoma	medium	T1b
B8	715864	carcinoma	health examination	65.9	62	survival	female	44	No	adenosquamous carcinoma.	high	T1a
F5	508961	carcinoma	health examination	41.43	41.43	death	female	60	Yes	squamous cell carcinoma	medium	T1b
E5	903136	carcinoma	health examination	50.9	50.9	survival	female	70	No	adenosquamous carcinoma.	medium	T1b
F9	509223	carcinoma	health examination	24.2	24.2	death	female	74	No	adenocarcinoma	medium	T2a
D3	505842	carcinoma	health examination	54	54	death	male	72	Yes	squamous cell carcinoma	medium	T2b
C3	901365	carcinoma	bloody sputum	48	48	death	female	55	No	squamous cell carcinoma	low	T2b
F7	609953	carcinoma	health examination	15.46	15.46	death	male	63	No	adenocarcinoma	low	T4
F3	609268	carcinoma	health examination	32.54	32.54	death	male	61	Yes	squamous cell carcinoma	low	T1a
F5	702391	carcinoma	cough	14.63	14.63	death	female	75	No	adenosquamous carcinoma.	low	T1b

G7	510604	carcinoma	health examination	8.1	8.1	death	male	62	Yes	adenocarcinoma	low	T1b
B3	504585	carcinoma	health examination	60.83	60.83	death	male	57	Yes	squamous cell carcinoma	low	T2a
A9	815177	carcinoma	hemoptysis	8.53	8.53	death	male	71	No	adenocarcinoma	medium	T1b
B3	512869	carcinoma	health examination	17.46	17.46	death	male	52	Yes	adenocarcinoma	medium	T2b

N stage	M stage	TNM	Clinical Stages	Intensity(0,1,2,3)	Proportion（%）	Score
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1aN0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1bN0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1bN0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T1N0M0	1a	1	0	0
N0	M0	T1N0M0	1a	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2aN0M0	1b	0	0	0
N0	M0	T2N0M0	1b	0	0	0
N0	M0	T2bN0M0	2a	0	0	0
N0	M0	T2bN0M0	2a	0	0	0
N0	M0	T2bN0M0	2a	0	0	0
N0	M0	T2bN0M0	2a	0	0	0
N0	M0	T2bN0M0	2a	0	0	0
N0	M0	T2bN0M0	2a	0	0	0
N0	M0	T2bN0M0	2a	0	0	0
N0	M0	T2bN0M0	3a	0	0	0
N0	M0	T3N0M0	2b	0	0	0
N0	M0			0	0	0
N0	M0			0	0	0
N0	M0			0	0	0
N1	M0	T1aN1M0	2a	0	0	0
N1	M0	T1N1M0	2a	0	0	0
N1	M0	T1N1M0	2a	0	0	0
N1	M0	T2aN1M0	2a	0	0	0
N1	M0	T2aN1M0	2a	0	0	0
N1	M0	T2aN1M0	2a	0	0	0
N1	M0	T2aN1M0	2a	0	0	0
N1	M0	T2aN1M0	2a	0	0	0
N1	M0	T2aN1M0	2a	0	0	0

N1	M0	T2aN1M0	2a	0	0	0
N1	M0	T2aN1M0	2a	0	0	0
N1	M0	T2bN1M0	2b	0	0	0
N1	M0	T3N1M0	3a	0	0	0
N1	M0	T3N1M0	3a	0	0	0
N1	M0	T3N1M0	3a	0	0	0
N2	M0	T1aN2M0	3a	0	0	0
N2	M0	T1bN2M0	3a	0	0	0
N2	M0	T2aN2M0	3a	0	0	0
N2	M0	T2aN2M0	3a	0	0	0
N2	M0	T2aN2M0	3a	0	0	0
N2	M0	T2aN2M0	3a	0	0	0
N2	M0	T2bN2M0	3a	0	0	0
N2	M0	T3N2M0	3a	0	0	0
N2	M0	T4N2M0	3b	0	0	0
N2	M0	T2aN2M0	3a	1	10	10
N0	M0	T1bN0M0	1a	1	20	20
N2	M0	T2aN2M0	3a	1	20	20
N0	M0	T2aN0M0	1b	1	30	30
N1	M0	T1bN1M0	2a	1	30	30
N2	M0	T2aN2M0	3a	1	30	30
N0	M0	T1aN0M0	1a	1	40	40
N0	M0	T1bN0M0	1a	1	40	40
N0	M0	T1N0M0	1a	1	40	40
N1	M0	T1N1M0	2a	1	40	40
N1	M0	T1N1M0	2a	1	40	40
N1	M0	T2aN1M0	2a	1	40	40
N2	M0	T2aN2M0	3a	1	40	40
N2	M0	T2bN2M0	3a	1	40	40
N2	M0	T3N2M0	3a	1	40	40
N0	M0	T1N0M0	1a	1	60	60
N0	M0	T1bN0M0	1a	1	60	60
N0	M0	T2aN0M0	1b	3	20	60
N0	M0	T2N0M0	1b	1	60	60
N1	M0	T3N1M0	3a	1	60	60
N0	M0	T1N0M0	1a	1	70	70
N0	M0	T1N0M0	1a	1	70	70
N0	M0	T2aN0M0	1b	1	70	70
N1	M0	T2aN1M0	1b	1	70	70
N1	M0	T2aN1M0	2a	1	70	70
N1	M0	T2aN1M0	2a	1	70	70
N2	M0	T2aN2M0	3a	1	70	70
N2	M0	T2bN2M0	3a	1	70	70
N0	M0	T1N0M0	1a	1	80	80
N0	M0	T1bN0M0	1a	1	80	80
N0	M0	T1N0M0	1a	2	40	80
N0	M0	T1bN0M0	1a	1	80	80
N0	M0	T2aN0M0	1b	1	80	80
N0	M0	T2aN0M0	1b	1	80	80
N0	M0	T2aN0M0	1b	2	40	80
N0	M0	T2aN0M0	1b	1	80	80

N0	M0	T3N0M0	2b	1	80	80
N1	M0	T1N1M0	2a	1	80	80
N1	M0	T1N1M0	2a	1	80	80
N1	M0	T2aN1M0	2a	1	80	80
N1	M0	T2aN1M0	2a	1	80	80
N2	M0	T1N2M0	3a	1	80	80
N2	M0	T2aN2M0	3a	2	40	80
N2	M0	T2aN2M0	3a	1	80	80
N0	M0	T1N0M0	1a	1	100	100
N0	M0	T1N0M0	1a	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2aN0M0	1b	2	50	100
N0	M0	T2aN0M0	1b	1	100	100
N0	M0	T2bN0M0	2a	1	100	100
N0	M0	T2bN0M0	2a	1	100	100
N0	M0	T2bN0M0	2a	1	100	100
N0	M0	T3N0M0	2b	2	50	100
N0	M0	T4N0M0	3a	1	100	100
N1	M0	T1bN1M0	2a	1	100	100
N1	M0	T2aN1M0	2a	1	100	100
N1	M0	T2aN1M0	2a	1	100	100
N1	M0	T2aN1M0	2a	1	100	100
N1	M0	T2bN1M0	2b	1	100	100
N2	M0	T1aN2M0	3a	1	100	100
N2	M0	T1N2M0	3a	1	100	100
N2	M0	T1bN2M0	3a	1	100	100
N2	M0	T2aN2M0	3a	1	100	100
N2	M0	T2aN2M0	3a	1	100	100
N0	M0	T2aN0M0	2a	2	60	120
N0	M0	T2bN0M0	2a	2	60	120
N0	M0	T2bN0M0	2a	2	60	120
N0	M0	T3N0M0	2b	2	60	120
N1	M0	T2aN1M0	2a	2	60	120
N2	M0	T3N2M0	3a	2	60	120
N0	M0	T1bN0M0	1a	2	70	140
N0	M0	T1bN0M0	1a	2	70	140
N0	M0	T2aN0M0	1b	2	70	140
N0	M0	T2aN0M0	1b	2	70	140
N0	M0	T2bN0M0	2a	2	70	140
N0	M0	T2bN0M0	2a	2	70	140
N1	M0	T2aN1M0	2a	2	70	140
N1	M0	T2aN1M0	2a	2	70	140
N1	M0	T2aN1M0	2a	2	70	140
N1	M0	T2aN1M0	2a	2	70	140

N2	M0	T3N2Mo	3a	2	70	140
N0	M0	T1aN0M0	1a	2	80	160
N0	M0	T1N0M0	1a	2	80	160
N0	M0	T2aN0M0	1b	2	80	160
N1	M0	T1aN1M0	2a	2	80	160
N1	M0	T1bN1M0	2a	2	80	160
N1	M0	T2aN1M0	2a	2	80	160
N1	M0	T2aN1M0	2a	2	80	160
N2	M0	T1N2M0	3a	2	80	160
N2	M0	T1bN2M0	3a	2	80	160
N2	M0	T1bN2M0	3a	2	80	160
N2	M0	T2aN2M0	3a	2	80	160
N0	M0	T1aN0M0	1a	2	90	180
N0	M0	T2aN0M0	1b	2	90	180
N0	M0	T2bN0M0	2a	2	90	180
N2	M0	T2aN2M0	3a	2	90	180
N0	M0	T1N0M0	1a	2	100	200
N0	M0	T1N0M0	1a	2	100	200
N0	M0	T1bN0M0	1a	2	100	200
N0	M0	T1bN0M0	1a	2	100	200
N0	M0	T1N0M0	1a	2	100	200
N0	M0	T2aN0M0	1b	2	100	200
N0	M0	T2bN0M0	2a	2	100	200
N0	M0	T4N0M1b	4	2	100	200
N0	M0	T4N0M0	3a	2	100	200
N1	M0	T1bN1M0	2a	2	100	200
N1	M0	T1bN1M0	2a	2	100	200
N1	M0	T2aN1M0	2a	2	100	200
N1	M0	T2aN1M0	2a	2	100	200
N1	M0	T2aN1M0	2a	2	100	200
N1	M0	T2aN1M0	2a	2	100	200
N1	M0	T2bN1M0	2b	2	100	200
N2	M0	T2aN2M0	3a	2	100	200
N2	M0	T2aN2M0	3a	2	100	200
N2	M0	T2aN2M0	3a	2	100	200
N2	M0	T2aN2M0	3a	2	100	200
N2	M1a	T3N2M1a	4	2	100	200
N0	M0	T1N0M0	1a	3	70	210
N0	M0	T2aN0M0	1b	3	70	210
N1	M0	T2aN1M0	2a	3	80	240
N1	M0	T2bN1M0	2b	3	80	240
N0	M0	T1bN0M0	1a	3	90	270
N1	M0	T1N1M0	2a	3	90	270
N2	M0	T1bN2M0	3a	3	90	270
N0	M0	T1N0M0	1a	3	100	300
N0	M0	T2aN0M0	1b	3	100	300
N0	M0	T2bN0M0	2a	3	100	300
N0	M0	T2bN0M0	2a	3	100	300
N0	M0	T4N0M1b	4	3	100	300
N1	M0	T1aN1M0	2a	3	100	300
N1	M0	T1N1M0	2a	3	100	300

N1	M0	T1bN1M0	2a	3	100	300
N1	M0	T2aN1M0	2a	3	100	300
N2	M0	T1N2M0	3a	3	100	300
N2	M0	T2bN2M0	3a	3	100	300

Table S2. Primers used for Q-PCR.

Name	Forward primer	Reverse primer
ABHD6	GTGGACCTGGAGACTCTC	TTCCTCTTGGAGAAGATCAG
GAPDH	5’-GGTAGACAAGTTTCCCTT-3’	5’-ATATGTTCTGGATGATTCT-3’
Acox1	ACTGGCATTGAAGCATGTCG	TCAGGAACCTAGCCGTCTGG
Acadm	TGTGGATAACCAACGGAGGA	GAGCTTTAGGATCTGGATCAGAAC
Acadl	CAAAACAGTTGCTCACCTACAGAC	CACAAATGCTCGGGTTACACA
Acadvl	CATACCCGTCCGTGCTCAA	GGATCGTTCACTTCCTCGAAG
Cpt1b	TGGCAGACGACGTGGAGTT	CAGAACTTACCCCTGTCCCG
Pdhk4	ATCTAACATCGCCAGAATTAAACC	GGAAGGTACACAATGTGGATTG
TGF-β	GCAACAATTCCTGGCGATAC	CTAAGGCGAAAGCCCTCAA
FABP4	CTTCCACGAGAGTTTATGAGAGAGC	CAGAATGTTGTAGAGTTCAATGCGA
ADRP	AGTGTGGTGACTCGGGTGGT	AGGTAGGGATACTGGTCCTTTGT
E-Cad	CCTCCTGAAAAGAGAGTGGA	GTGTCCGGATTAATCTCCAG
VIM	GAGAACTTTGCCGTTGAAGC	TCCAGCAGCTTCCTGTAGGT
S100A4	GTACTCGGGCAAAGAGGGTG	TTGTCCCTGTTGCTGTCCAA
SNAIL	GCCAAACTACAGCGAACTGG	GAGAGAGGCCATTGGGTAGC

Table S3. Levels of lipid metabolites in human cancer cell lines

pmol/mg cell protein[a]

metabolite[b]	Sample	LPE16:1	LPE16:0	LPE18:2	LPE18:1	LPE18:0	LPE18:0p	LPE18:1p	LPE20:0p
A549 shControl	1	0.0803	0.4534	0.5583	0.3884	0.4896	0.6437	0.3123	0.0900
	2	0.0903	1.3349	1.7757	0.8508	1.3042	0.4258	0.2572	0.1022
	3	0.0315	1.1324	0.5827	0.4982	1.1153	0.4913	0.3523	0.0877
A549 shABHD6	4	0.0547	0.4935	0.6815	0.3586	0.6577	0.6351	0.3942	0.0823
	5	0.0649	0.7964	0.8574	0.5725	1.0270	0.4648	0.2811	0.1187
	6	0.0335	0.4318	0.5498	0.2498	0.5376	0.5902	0.3044	0.1084
A549 shControl	av	0.0674	0.9736	0.9722	0.5791	0.9697	0.5203	0.3073	0.0933
	sem	0.0315	0.4617	0.6959	0.2416	0.4264	0.1118	0.0478	0.0078
A549 shABHD6	av	0.0511	0.5739	0.6962	0.3936	0.7408	0.5634	0.3266	0.1031
	sem	0.0160	0.1952	0.1543	0.1642	0.2551	0.0882	0.0597	0.0188
	p-value	0.4687	0.2394	0.5392	0.3331	0.4695	0.6281	0.6842	0.4496
	fold-change	0.7580	0.5895	0.7161	0.6797	0.7639	1.0828	1.0629	1.1052

metabolite[b]		LPE16:1	LPE16:0	LPE18:2	LPE18:1	LPE18:0	LPE18:0p	LPE18:1p	LPE20:0p
SPC-A-1 shControl	1	0.0349	0.2531	0.4901	0.2240	0.3170	0.4059	0.2071	0.0644
	2	0.0808	0.3829	0.3589	0.1506	0.3348	0.6966	0.3308	0.0918
	3	0.0596	0.2588	0.2362	0.0883	0.3053	0.6623	0.1988	0.0994
SPC-A-1 shABHD6	4	0.0713	0.3016	0.4060	0.2047	0.3826	0.6645	0.3559	0.0527
	5	0.0253	0.2194	0.4148	0.2167	0.2912	0.4488	0.1968	0.0690
	6	0.0606	0.3118	0.3620	0.1819	0.3904	0.5075	0.3887	0.0670
SPC-A-1 shControl	av	0.0584	0.2983	0.3617	0.1543	0.3191	0.5883	0.2456	0.0852
	sem	0.0230	0.0734	0.1270	0.0679	0.0148	0.1589	0.0739	0.0184
SPC-A-1 shABHD6	av	0.0524	0.2776	0.3943	0.2011	0.3547	0.5403	0.3138	0.0629
	sem	0.0241	0.0507	0.0283	0.0177	0.0552	0.1115	0.1026	0.0089
	p-value	0.7694	0.7087	0.6871	0.3119	0.3401	0.6906	0.4029	0.1310
	fold-change	0.8968	0.9307	1.0900	1.3036	1.1119	0.9184	1.2779	0.7379

[a] all values are pmoles/mg cell protein.

[b] metabolite abbreviations are as follows: PC,phosphatidylcholines;PE,phosphatidylethanolamines;PS,phosphatidylserines;PA,phosphatidic acids;PG,ph

PE34:2p	PE34:1p	PE36:4p	PE36:3p	PE36:2p	PE36:1p	PE38:6p	PE38:5p	PE38:4p	PE40:6p	PE40:5p
0.4822	0.2460	1.2608	0.5995	0.6907	0.1955	0.8910	1.7153	2.0329	1.4318	0.4773
0.2056	0.1254	0.5366	0.2479	0.3324	0.1606	0.7014	1.0578	0.9014	1.1338	0.4690
0.0427	0.0559	0.2318	0.1233	0.1398	0.0806	0.3058	0.3979	0.6873	0.6511	0.3617
0.4246	0.2069	0.8321	0.4931	0.5693	0.2442	0.6968	1.7234	1.8245	1.1043	0.5226
0.2195	0.1407	0.3707	0.2353	0.2997	0.1801	0.3786	0.6770	0.7309	0.6915	0.2932
0.4659	0.2079	0.8021	0.4425	0.6629	0.2893	0.7896	1.0945	1.4103	1.1476	0.5144
0.2435	0.1424	0.6764	0.3236	0.3876	0.1455	0.6328	1.0570	1.2072	1.0723	0.4360
0.2221	0.0962	0.5285	0.2469	0.2796	0.0589	0.2986	0.6587	0.7231	0.3940	0.0645
0.3700	0.1852	0.6683	0.3903	0.5106	0.2378	0.6217	1.1650	1.3219	0.9811	0.4434
0.1320	0.0385	0.2582	0.1366	0.1886	0.0549	0.2155	0.5267	0.5521	0.2518	0.1302
0.4442	0.5143	0.9821	0.7031	0.5617	0.1179	0.9609	0.8354	0.8378	0.7527	0.9341
1.5195	1.3002	0.9880	1.2062	1.3174	1.6343	0.9825	1.1022	1.0950	0.9150	1.0169

PE34:2p	PE34:1p	PE36:4p	PE36:3p	PE36:2p	PE36:1p	PE38:6p	PE38:5p	PE38:4p	PE40:6p	PE40:5p
0.5492	0.2261	0.9494	0.6330	0.9494	0.2872	0.6423	1.2500	1.9454	0.9707	0.5372
0.8346	0.3554	1.6225	0.8651	1.0858	0.2872	1.2276	2.1178	2.7568	1.4574	0.8489
0.6757	0.2632	1.4138	0.5251	1.1981	0.2836	0.8724	1.2157	1.9946	1.4654	0.5889
0.5929	0.3278	1.2767	0.7403	0.9693	0.3027	0.7764	1.6453	2.3840	1.3159	0.7105
0.5566	0.2533	1.1981	0.5093	0.7208	0.2407	0.6220	1.3191	1.5042	1.0102	0.4592
0.4793	0.2849	1.2390	0.5683	0.7048	0.2166	1.0416	1.5877	1.4304	1.4185	0.6009
0.6865	0.2815	1.3286	0.6744	1.0778	0.2860	0.9141	1.5278	2.2323	1.2978	0.6583
0.1430	0.0666	0.3445	0.1737	0.1245	0.0021	0.2949	0.5112	0.4549	0.2833	0.1671
0.5429	0.2886	1.2379	0.6060	0.7983	0.2534	0.8133	1.5174	1.7729	1.2482	0.5902
0.0580	0.0374	0.0393	0.1200	0.1483	0.0444	0.2122	0.1741	0.5306	0.2124	0.1260
0.1824	0.8799	0.6741	0.6046	0.0668	0.2724	0.6560	0.9748	0.3185	0.8202	0.6029
0.7908	1.0252	0.9318	0.8985	0.7407	0.8859	0.8897	0.9931	0.7942	0.9618	0.8965

ıosphatidylglycerols;PI,phosphatidylinositols;LBPA,lyso-bisphosphatidic acids;LPC,lyso-PC;LPE,lyso-PE;LPS,lyso-PS;LPA,lyso-PA;LPI,lyso-PI.

PE40:4p	PE42:3p	PE42:2p	PE42:1p	PE42:0p	PE32:2	PE32:1	PE32:0	PE34:2	PE34:1	PE34:0
0.3926	0.1662	0.0749	0.0407	0.0293	0.0049	0.0358	0.0326	1.2282	0.4610	0.0880
0.2183	0.0986	0.0493	0.0254	0.0113	0.0042	0.0352	0.0211	1.1226	0.5761	0.0676
0.4373	0.1151	0.0575	0.0444	0.0247	0.0049	0.0691	0.0526	1.8283	1.0934	0.1233
0.3297	0.1555	0.0793	0.0233	0.0280	0.0140	0.0420	0.0296	1.3439	0.7653	0.1182
0.2274	0.0881	0.0657	0.0171	0.0263	0.0105	0.0552	0.0394	1.6367	0.7349	0.0789
0.3799	0.1407	0.0922	0.0235	0.0313	0.0047	0.0235	0.0188	0.9600	0.5550	0.0657
0.3494	0.1266	0.0606	0.0368	0.0218	0.0047	0.0467	0.0354	1.3930	0.7101	0.0930
0.1157	0.0352	0.0131	0.0101	0.0094	0.0004	0.0194	0.0159	0.3806	0.3368	0.0282
0.3124	0.1281	0.0791	0.0213	0.0285	0.0097	0.0402	0.0293	1.3135	0.6851	0.0876
0.0777	0.0355	0.0133	0.0036	0.0025	0.0047	0.0160	0.0103	0.3394	0.1136	0.0273
0.6692	0.9610	0.1604	0.0664	0.2936	0.1372	0.6777	0.6027	0.8005	0.9086	0.8242
0.8940	1.0118	1.3055	0.5782	1.3112	2.0795	0.8612	0.8254	0.9429	0.9647	0.9422

PE40:4p	PE42:3p	PE42:2p	PE42:1p	PE42:0p	PE32:2	PE32:1	PE32:0	PE34:2	PE34:1	PE34:0
0.2979	0.1090	0.0426	0.0226	0.0106	0.0066	0.0173	0.0093	0.4003	0.1941	0.0293
0.4182	0.2584	0.1615	0.0449	0.0503	0.0090	0.0251	0.0018	0.9781	0.3715	0.0772
0.3487	0.1900	0.0801	0.0217	0.0122	0.0095	0.0231	0.0217	0.7042	0.3066	0.0434
0.3090	0.1929	0.1019	0.0282	0.0314	0.0188	0.0267	0.0141	0.6823	0.2306	0.0471
0.2825	0.1364	0.0431	0.0167	0.0083	0.0111	0.0237	0.0056	0.5677	0.2477	0.0334
0.2270	0.1335	0.0712	0.0223	0.0163	0.0074	0.0089	0.0089	0.6128	0.2656	0.0490
0.3549	0.1858	0.0947	0.0297	0.0244	0.0084	0.0218	0.0109	0.6942	0.2908	0.0499
0.0604	0.0748	0.0608	0.0131	0.0224	0.0015	0.0041	0.0101	0.2891	0.0897	0.0246
0.2728	0.1543	0.0721	0.0224	0.0187	0.0125	0.0197	0.0095	0.6209	0.2479	0.0431
0.0418	0.0335	0.0294	0.0058	0.0117	0.0058	0.0095	0.0043	0.0577	0.0175	0.0085
0.1250	0.5415	0.5933	0.4256	0.7168	0.3045	0.7443	0.8344	0.6890	0.4628	0.6740
0.7687	0.8303	0.7613	0.7533	0.7666	1.4877	0.9044	0.8712	0.8945	0.8527	0.8636

PE36:4	PE36:3	PE36:2	PE36:1	PE38:7	PE38:6	PE38:5	PE38:4	PE38:3	PE40:6	PE40:5
0.5897	0.3975	1.2820	0.4024	0.1026	0.8454	0.4170	1.2608	0.2557	0.4936	0.1906
0.5704	0.4014	1.6691	0.5000	0.0901	0.9085	0.4282	1.0634	0.2521	0.9789	0.2254
0.8484	0.5278	1.7395	0.4275	0.0460	1.3465	0.5870	1.6129	0.2828	1.1131	0.3107
0.4744	0.3997	1.7949	0.5335	0.0700	0.5926	0.3951	1.3376	0.3329	0.4791	0.1384
0.5587	0.6139	1.4658	0.3602	0.0631	0.7283	0.3720	1.1200	0.2261	0.6441	0.2116
0.4190	0.3940	1.2493	0.3612	0.0672	0.6176	0.4112	0.9084	0.2251	0.6410	0.1861
0.6695	0.4422	1.5635	0.4433	0.0796	1.0335	0.4774	1.3124	0.2636	0.8619	0.2422
0.1552	0.0741	0.2463	0.0507	0.0297	0.2730	0.0951	0.2784	0.0168	0.3259	0.0618
0.4840	0.4692	1.5033	0.4183	0.0668	0.6462	0.3928	1.1220	0.2614	0.5881	0.1787
0.0703	0.1253	0.2748	0.0998	0.0035	0.0722	0.0197	0.2146	0.0619	0.0944	0.0372
0.1325	0.7641	0.7916	0.7187	0.4992	0.0763	0.2056	0.4014	0.9559	0.2348	0.2019
0.7230	1.0611	0.9615	0.9436	0.8389	0.6252	0.8228	0.8550	0.9917	0.6824	0.7378

PE36:4	PE36:3	PE36:2	PE36:1	PE38:7	PE38:6	PE38:5	PE38:4	PE38:3	PE40:6	PE40:5
0.3218	0.1862	0.6702	0.1662	0.0505	0.2527	0.1928	0.5917	0.1356	0.1449	0.0957
0.5133	0.3482	1.2994	0.3141	0.1561	0.8130	0.3679	0.8830	0.1723	0.4379	0.1418
0.4681	0.1886	0.8060	0.1913	0.1221	0.5305	0.1954	0.5862	0.0950	0.3256	0.1357
0.4909	0.3153	0.9740	0.2509	0.0957	0.5286	0.3058	0.9395	0.1647	0.2902	0.0925
0.3618	0.3117	1.0895	0.2908	0.0543	0.3075	0.1837	0.6262	0.1948	0.2741	0.1127
0.3294	0.2522	0.9941	0.2686	0.1068	0.5015	0.3472	0.7567	0.1232	0.2908	0.1053
0.4344	0.2410	0.9252	0.2239	0.1096	0.5321	0.2520	0.6870	0.1343	0.3028	0.1244
0.1001	0.0928	0.3311	0.0791	0.0539	0.2802	0.1004	0.1698	0.0387	0.1478	0.0250
0.3940	0.2931	1.0192	0.2701	0.0856	0.4459	0.2789	0.7741	0.1609	0.2850	0.1035
0.0855	0.0354	0.0617	0.0200	0.0277	0.1206	0.0850	0.1574	0.0360	0.0095	0.0102
0.6234	0.4153	0.6540	0.3820	0.5304	0.6501	0.7414	0.5500	0.4327	0.8453	0.2518
0.9071	1.2161	1.1016	1.2065	0.7810	0.8380	1.1066	1.1269	1.1979	0.9412	0.8322

PE40:4	LPA16:1	LPA16:0	LPA18:2	LPA18:1	LPA18:0	PA32:2	PA32:1	PA32:0	PA34:2	PA34:1
0.0896	0.0142	0.0911	0.2272	0.0496	0.0230	0.0226	0.0104	0.0094	0.1724	0.0273
0.0732	0.0096	0.0731	0.1412	0.0317	0.0158	0.0277	0.0138	0.0101	0.1644	0.0330
0.1151	0.0060	0.0443	0.0520	0.0230	0.0156	0.0199	0.0067	0.0078	0.1467	0.0307
0.0715	0.0182	0.1252	0.2383	0.0703	0.0216	0.0157	0.0085	0.0071	0.0941	0.0273
0.0605	0.0309	0.1397	0.2141	0.0735	0.0207	0.0202	0.0116	0.0091	0.1777	0.0332
0.0876	0.0127	0.1040	0.2470	0.0625	0.0212	0.0229	0.0116	0.0088	0.1569	0.0295
0.0926	0.0099	0.0695	0.1401	0.0348	0.0181	0.0234	0.0103	0.0091	0.1612	0.0303
0.0211	0.0041	0.0236	0.0876	0.0136	0.0042	0.0039	0.0036	0.0012	0.0131	0.0029
0.0732	0.0206	0.1230	0.2331	0.0688	0.0212	0.0196	0.0106	0.0083	0.1429	0.0300
0.0136	0.0093	0.0180	0.0170	0.0056	0.0005	0.0037	0.0018	0.0011	0.0435	0.0030
0.2508	0.1439	0.0355	0.1454	0.0160	0.2828	0.2892	0.9096	0.4271	0.5245	0.9009
0.7901	2.0738	1.7689	1.6638	1.9786	1.1663	0.8377	1.0271	0.9121	0.8867	0.9895

PE40:4	LPA16:1	LPA16:0	LPA18:2	LPA18:1	LPA18:0	PA32:2	PA32:1	PA32:0	PA34:2	PA34:1
0.0399	0.0036	0.0338	0.1288	0.0254	0.0120	0.0223	0.0113	0.0083	0.0646	0.0248
0.0969	0.0082	0.0767	0.2579	0.0537	0.0371	0.0401	0.0240	0.0153	0.0978	0.0300
0.0868	0.0087	0.0724	0.1588	0.0279	0.0267	0.0356	0.0147	0.0118	0.1404	0.0369
0.0674	0.0101	0.0731	0.2268	0.0419	0.0327	0.0553	0.0331	0.0274	0.1335	0.0456
0.0487	0.0022	0.0197	0.0547	0.0097	0.0061	0.0136	0.0065	0.0049	0.0481	0.0154
0.0430	0.0049	0.0312	0.0927	0.0176	0.0140	0.0164	0.0058	0.0065	0.1604	0.0207
0.0745	0.0069	0.0610	0.1818	0.0357	0.0253	0.0327	0.0167	0.0118	0.1009	0.0305
0.0304	0.0028	0.0236	0.0676	0.0156	0.0126	0.0092	0.0066	0.0035	0.0380	0.0061
0.0531	0.0057	0.0413	0.1247	0.0231	0.0176	0.0284	0.0151	0.0129	0.1140	0.0272
0.0128	0.0040	0.0281	0.0904	0.0168	0.0137	0.0233	0.0156	0.0126	0.0586	0.0161
0.3225	0.7062	0.4069	0.4304	0.3947	0.5135	0.7846	0.8804	0.8897	0.7616	0.7563
0.7117	0.8335	0.6780	0.6860	0.6464	0.6961	0.8704	0.9061	1.0940	1.1298	0.8918

PA36:2	PA36:1	PA38:5	PA38:4	PA38:3	PA40:6	PA40:5	LPI16:1	LPI16:0	LPI18:0	LPI20:4
0.0648	0.0212	0.0236	0.0557	0.0185	0.0182	0.0069	0.0301	0.4095	1.2941	0.5475
0.0609	0.0144	0.0212	0.0497	0.0123	0.0209	0.0110	0.0169	0.1587	0.7531	0.5348
0.0568	0.0186	0.0195	0.0599	0.0126	0.0179	0.0086	0.0259	0.3572	1.6578	0.5076
0.0535	0.0147	0.0111	0.0530	0.0149	0.0115	0.0077	0.0151	0.3032	1.5927	0.7719
0.0715	0.0214	0.0198	0.0494	0.0113	0.0193	0.0126	0.0314	0.3336	1.3588	0.6223
0.0585	0.0188	0.0187	0.0516	0.0171	0.0239	0.0098	0.0264	0.4597	2.2180	1.0021
0.0608	0.0181	0.0214	0.0551	0.0145	0.0190	0.0088	0.0243	0.3085	1.2350	0.5300
0.0040	0.0034	0.0021	0.0052	0.0035	0.0017	0.0021	0.0067	0.1323	0.4552	0.0204
0.0612	0.0183	0.0165	0.0513	0.0145	0.0183	0.0100	0.0243	0.3655	1.7232	0.7988
0.0093	0.0034	0.0047	0.0018	0.0030	0.0063	0.0024	0.0084	0.0829	0.4443	0.1914
0.9547	0.9385	0.1752	0.2933	0.9922	0.8522	0.5551	0.9969	0.5613	0.2545	0.0728
1.0058	1.0127	0.7717	0.9308	0.9981	0.9609	1.1341	0.9990	1.1849	1.3953	1.5072

PA36:2	PA36:1	PA38:5	PA38:4	PA38:3	PA40:6	PA40:5	LPI16:1	LPI16:0	LPI18:0	LPI20:4
0.0607	0.0120	0.0193	0.0528	0.0145	0.0092	0.0050	0.0046	0.1029	0.4717	0.3390
0.0859	0.0227	0.0264	0.1075	0.0278	0.0274	0.0117	0.0296	0.6366	3.2757	1.7295
0.0992	0.0252	0.0359	0.1534	0.0247	0.0366	0.0145	0.0147	0.2437	1.3807	0.7073
0.1045	0.0293	0.0456	0.1933	0.0451	0.0339	0.0149	0.0367	0.5523	3.6244	1.9380
0.0348	0.0095	0.0079	0.0229	0.0084	0.0099	0.0043	0.0108	0.0912	0.4815	0.2611
0.0549	0.0103	0.0158	0.0606	0.0100	0.0180	0.0090	0.0052	0.1150	0.8687	0.3707
0.0819	0.0200	0.0272	0.1046	0.0223	0.0244	0.0104	0.0163	0.3277	1.7094	0.9252
0.0196	0.0070	0.0083	0.0504	0.0070	0.0140	0.0049	0.0126	0.2766	1.4306	0.7204
0.0647	0.0164	0.0231	0.0922	0.0211	0.0206	0.0094	0.0176	0.2528	1.6582	0.8566
0.0359	0.0112	0.0199	0.0895	0.0207	0.0122	0.0053	0.0168	0.2596	1.7137	0.9381
0.5066	0.6619	0.7574	0.8453	0.9290	0.7399	0.8212	0.9195	0.7495	0.9702	0.9247
0.7902	0.8200	0.8486	0.8820	0.9464	0.8438	0.9037	1.0801	0.7714	0.9701	0.9258

PI 34:2	PI 34:1	PI 36:4	PI 36:3	PI 36:2	PI 36:1	PI 38:6	PI 38:5	PI 38:4	PI 38:3	PI 40:6
1.5835	0.8165	0.5416	0.4328	2.2926	0.5692	0.0951	0.1591	1.6977	0.3389	0.0765
0.7403	0.8392	0.3719	0.2909	1.4811	0.5196	0.0605	0.1292	3.1923	0.7783	0.1679
0.7215	0.4175	0.1662	0.1130	1.4769	0.3003	0.0239	0.0360	0.7531	0.0985	0.0361
0.7712	0.7699	0.5104	0.4675	2.7225	0.9563	0.0222	0.1177	2.7278	0.7629	0.0814
0.8106	0.6314	0.5297	0.3405	1.7283	0.5030	0.0326	0.1234	1.8884	0.5139	0.0915
1.0481	0.6877	0.3711	0.2495	1.7113	0.4729	0.0472	0.0937	2.2630	0.4682	0.1059
1.0151	0.6911	0.3599	0.2789	1.7502	0.4630	0.0598	0.1081	1.8810	0.4052	0.0935
0.4924	0.2372	0.1880	0.1602	0.4697	0.1431	0.0356	0.0642	1.2299	0.3447	0.0675
0.8766	0.6963	0.4704	0.3525	2.0541	0.6440	0.0340	0.1116	2.2931	0.5817	0.0929
0.1498	0.0697	0.0865	0.1095	0.5790	0.2708	0.0126	0.0157	0.4205	0.1586	0.0123
0.6655	0.9723	0.4073	0.5470	0.5192	0.3639	0.3021	0.9321	0.6121	0.4658	0.9894
0.8636	1.0076	1.3070	1.2640	1.1736	1.3909	0.5685	1.0321	1.2191	1.4354	0.9940

PI 34:2	PI 34:1	PI 36:4	PI 36:3	PI 36:2	PI 36:1	PI 38:6	PI 38:5	PI 38:4	PI 38:3	PI 40:6
0.4367	0.3164	0.1568	0.2089	1.0445	0.2690	0.0166	0.0543	1.2184	0.2847	0.0402
0.7887	0.5906	0.2379	0.2180	1.5811	0.4691	0.0398	0.0800	1.4371	0.3718	0.0930
0.3759	0.2823	0.1573	0.0954	1.4572	0.3584	0.0201	0.0625	1.5307	0.2691	0.0912
0.3578	0.3068	0.2095	0.2694	1.3275	0.3215	0.0337	0.0754	1.6607	0.4896	0.0501
0.3761	0.2668	0.1300	0.1250	0.6476	0.2460	0.0090	0.0326	0.7816	0.2211	0.0236
0.1898	0.1442	0.0955	0.1280	0.7639	0.2397	0.0152	0.0398	1.0985	0.1982	0.0500
0.5338	0.3964	0.1840	0.1741	1.3609	0.3655	0.0255	0.0656	1.3954	0.3085	0.0748
0.2228	0.1690	0.0467	0.0683	0.2810	0.1002	0.0125	0.0131	0.1602	0.0553	0.0300
0.3079	0.2393	0.1450	0.1741	0.9130	0.2691	0.0193	0.0493	1.1803	0.3030	0.0412
0.1026	0.0847	0.0585	0.0825	0.3637	0.0455	0.0128	0.0229	0.4452	0.1620	0.0153
0.1860	0.2234	0.4175	1.0000	0.1667	0.2038	0.5816	0.3442	0.4751	0.9577	0.1590
0.5768	0.6036	0.7880	1.0000	0.6709	0.7362	0.7567	0.7512	0.8458	0.9819	0.5515

PI 40:5	PI 40:4	LPS16:0	LPS18:1	LPS18:0	PS 34:2	PS 34:1	PS 36:2	PS 36:1	PS 38:5	PS 38:4
0.0554	0.0243	0.0022	0.0120	0.0224	0.0023	0.0035	0.0236	0.1703	0.0041	0.0937
0.0937	0.0340	0.0020	0.0080	0.0136	0.0028	0.0051	0.0491	0.2150	0.0089	0.1371
0.0267	0.0108	0.0026	0.0483	0.0936	0.0028	0.0164	0.1012	0.6697	0.0120	0.2925
0.0723	0.0381	0.0014	0.0141	0.0230	0.0021	0.0031	0.0236	0.1673	0.0073	0.1294
0.0602	0.0488	0.0024	0.0140	0.0171	0.0026	0.0056	0.0292	0.1820	0.0074	0.0902
0.0529	0.0264	0.0030	0.0214	0.0311	0.0032	0.0036	0.0212	0.1679	0.0077	0.0867
0.0586	0.0230	0.0023	0.0228	0.0432	0.0026	0.0083	0.0580	0.3517	0.0083	0.1744
0.0336	0.0117	0.0003	0.0222	0.0439	0.0003	0.0070	0.0395	0.2763	0.0040	0.1046
0.0618	0.0378	0.0023	0.0165	0.0237	0.0026	0.0041	0.0247	0.1724	0.0074	0.1021
0.0098	0.0112	0.0008	0.0042	0.0070	0.0005	0.0014	0.0041	0.0083	0.0002	0.0237
0.8823	0.1897	0.9948	0.6556	0.4897	0.9487	0.3636	0.2198	0.3242	0.7199	0.3075
1.0545	1.6412	1.0015	0.7244	0.5490	0.9908	0.4926	0.4252	0.4902	0.8931	0.5854

PI 40:5	PI 40:4	LPS16:0	LPS18:1	LPS18:0	PS 34:2	PS 34:1	PS 36:2	PS 36:1	PS 38:5	PS 38:4
0.0273	0.0164	0.0025	0.0041	0.0071	0.0013	0.0023	0.0229	0.1429	0.0039	0.0583
0.0706	0.0206	0.0031	0.0161	0.0302	0.0040	0.0025	0.0256	0.1451	0.0048	0.0910
0.0456	0.0170	0.0019	0.0078	0.0141	0.0021	0.0025	0.0232	0.1622	0.0048	0.0983
0.0430	0.0218	0.0016	0.0162	0.0405	0.0015	0.0042	0.0264	0.1799	0.0075	0.1111
0.0258	0.0159	0.0020	0.0060	0.0137	0.0022	0.0024	0.0238	0.2011	0.0056	0.1409
0.0343	0.0218	0.0015	0.0089	0.0091	0.0016	0.0014	0.0173	0.1200	0.0026	0.0372
0.0479	0.0180	0.0025	0.0094	0.0172	0.0025	0.0024	0.0239	0.1501	0.0045	0.0825
0.0217	0.0023	0.0006	0.0062	0.0118	0.0013	0.0001	0.0015	0.0106	0.0005	0.0213
0.0344	0.0198	0.0017	0.0104	0.0211	0.0018	0.0026	0.0225	0.1670	0.0052	0.0964
0.0086	0.0034	0.0003	0.0053	0.0170	0.0004	0.0014	0.0047	0.0421	0.0024	0.0534
0.3748	0.4785	0.1241	0.8376	0.7581	0.4423	0.8023	0.6487	0.5360	0.6389	0.6974
0.7186	1.1024	0.6901	1.1094	1.2295	0.7229	1.0895	0.9414	1.1128	1.1619	1.1681

PS 38:3	PS 40:7	PS 40:6	PS 40:5	PS 40:4	PG34:2	PG34:1	PG36:3	PG36:2	PG36:1	PG38:5
0.0258	0.0499	0.0421	0.0206	0.0245	0.0388	0.0649	0.0172	0.0593	0.0447	0.0047
0.0401	0.0684	0.0546	0.0338	0.0235	0.0206	0.0865	0.0137	0.0773	0.0928	0.0047
0.0745	0.0559	0.0937	0.0707	0.0590	0.0250	0.0906	0.0135	0.0668	0.0521	0.0071
0.0328	0.0652	0.0404	0.0319	0.0292	0.0270	0.0925	0.0160	0.1066	0.1349	0.0072
0.0314	0.0938	0.0301	0.0207	0.0165	0.0266	0.0844	0.0114	0.0852	0.0736	0.0056
0.0260	0.0723	0.0468	0.0195	0.0152	0.0221	0.0676	0.0116	0.0554	0.0604	0.0090
0.0468	0.0581	0.0635	0.0417	0.0357	0.0281	0.0807	0.0148	0.0678	0.0632	0.0055
0.0250	0.0095	0.0269	0.0260	0.0202	0.0095	0.0138	0.0021	0.0091	0.0259	0.0014
0.0301	0.0771	0.0391	0.0240	0.0203	0.0252	0.0815	0.0130	0.0824	0.0896	0.0073
0.0036	0.0149	0.0084	0.0068	0.0077	0.0028	0.0127	0.0026	0.0257	0.0398	0.0017
0.3146	0.1354	0.2087	0.3187	0.2853	0.6387	0.9444	0.4044	0.4059	0.3894	0.2376
0.6421	1.3268	0.6162	0.5767	0.5682	0.8970	1.0099	0.8790	1.2154	1.4182	1.3196

PS 38:3	PS 40:7	PS 40:6	PS 40:5	PS 40:4	PG34:2	PG34:1	PG36:3	PG36:2	PG36:1	PG38:5
0.0188	0.0228	0.0209	0.0118	0.0137	0.0075	0.0253	0.0078	0.0151	0.0191	0.0081
0.0236	0.0311	0.0367	0.0206	0.0163	0.0237	0.0793	0.0142	0.0540	0.0458	0.0076
0.0229	0.0311	0.0380	0.0208	0.0180	0.0099	0.0296	0.0059	0.0264	0.0197	0.0044
0.0298	0.0470	0.0385	0.0248	0.0240	0.0114	0.0350	0.0099	0.0365	0.0242	0.0076
0.0365	0.0219	0.0306	0.0218	0.0285	0.0177	0.0247	0.0083	0.0363	0.0390	0.0027
0.0106	0.0255	0.0220	0.0116	0.0071	0.0112	0.0298	0.0056	0.0397	0.0259	0.0028
0.0218	0.0284	0.0319	0.0177	0.0160	0.0137	0.0447	0.0093	0.0318	0.0282	0.0067
0.0026	0.0048	0.0095	0.0051	0.0022	0.0087	0.0300	0.0043	0.0200	0.0152	0.0020
0.0257	0.0315	0.0304	0.0194	0.0199	0.0134	0.0298	0.0079	0.0375	0.0297	0.0044
0.0134	0.0136	0.0082	0.0069	0.0113	0.0037	0.0051	0.0022	0.0019	0.0081	0.0028
0.6500	0.7253	0.8488	0.7499	0.5917	0.9573	0.4441	0.6520	0.6523	0.8868	0.2982
1.1777	1.1105	0.9537	1.0957	1.2407	0.9773	0.6669	0.8536	1.1771	1.0536	0.6479

PG38:4	LysoPC14:0e	LysoPC16:1	LysoPC16:0	LysoPC18:3	LysoPC18:2	LysoPC18:1	LysoPC18:0	LysoPC20:5	LysoPC20:4	LysoPC20:3
0.0078	0.2496	0.9049	37.4665	0.4343	18.8597	10.5040	18.9115	0.8859	9.6348	2.6269
0.0056	0.2033	0.7008	30.0467	0.3131	19.1515	10.6051	10.6698	1.0874	7.9385	2.6834
0.0091	0.1077	0.6902	30.3604	0.2838	17.7544	11.1521	9.4512	0.4390	7.1129	1.2687
0.0121	0.1704	0.8972	45.3364	0.4645	26.1568	16.2260	22.5729	0.4835	10.3301	3.4212
0.0067	0.2071	1.1717	33.2942	0.3555	22.1395	17.9886	12.3890	0.4029	7.3801	2.4909
0.0125	0.2108	0.9417	51.5760	0.3888	29.1687	16.0241	20.0870	0.7109	11.1338	2.9783
0.0075	0.1869	0.7653	32.6245	0.3437	18.5885	10.7537	13.0108	0.8041	8.2287	2.1930
0.0017	0.0724	0.1210	4.1962	0.0798	0.7369	0.3487	5.1463	0.3319	1.2858	0.8010
0.0104	0.1961	1.0035	43.4022	0.4029	25.8217	16.7462	18.3497	0.5324	9.6147	2.9635
0.0033	0.0223	0.1473	9.2931	0.0559	3.5265	1.0806	5.3096	0.1597	1.9764	0.4653
0.2408	0.8430	0.0964	0.1411	0.3520	0.0254	0.0008	0.2793	0.2705	0.3662	0.2231
1.3929	1.0495	1.3113	1.3304	1.1722	1.3891	1.5573	1.4103	0.6621	1.1684	1.3513

PG38:4	LysoPC14:0e	LysoPC16:1	LysoPC16:0	LysoPC18:3	LysoPC18:2	LysoPC18:1	LysoPC18:0	LysoPC20:5	LysoPC20:4	LysoPC20:3
0.0030	0.1579	0.5453	27.3323	0.1580	21.9575	9.3428	11.1916	0.1545	9.1268	2.2489
0.0076	0.2102	0.5523	30.4651	0.1647	23.3695	9.0435	12.8349	0.7166	11.0416	1.9713
0.0059	0.1913	0.5251	31.6568	0.1649	18.3199	7.4862	10.9649	0.5484	11.0553	1.5660
0.0058	0.1958	0.8452	34.6604	0.2387	22.4444	10.2035	13.2419	0.4773	13.8972	2.8722
0.0051	0.1399	0.5362	29.4745	0.2416	21.6607	8.3312	11.3945	0.2858	9.1317	2.7455
0.0034	0.1573	0.4636	26.1868	0.1465	16.2932	7.0977	11.0986	0.5964	6.2313	1.1349
0.0055	0.1865	0.5409	29.8181	0.1626	21.2156	8.6242	11.6638	0.4732	10.4079	1.9287
0.0024	0.0264	0.0141	2.2337	0.0039	2.6052	0.9968	1.0205	0.2885	1.1095	0.3434
0.0048	0.1643	0.6150	30.1072	0.2089	20.1327	8.5441	11.9116	0.4532	9.7534	2.2509
0.0012	0.0286	0.2026	4.2721	0.0541	3.3482	1.5638	1.1615	0.1567	3.8706	0.9685
0.6657	0.3808	0.5618	0.9223	0.2126	0.6813	0.9440	0.7950	0.9212	0.7923	0.6160
0.8699	0.8813	1.1370	1.0097	1.2854	0.9490	0.9907	1.0212	0.9578	0.9371	1.1670

LysoPC22:6	LysoPC22:5	PC32:2e	PC32:1e	PC34:2p	PC34:1p	PC34:0p	PC36:4p	PC36:3p	PC36:2p	PC36:1p
2.7598	0.8435	0.4947	1.4505	0.5266	4.0085	3.7170	1.4442	10.0300	3.5770	4.4750
4.5258	1.2140	0.5655	1.2654	0.3104	3.2912	4.2161	0.8547	5.2601	2.8060	6.1084
2.6734	0.7287	0.4839	1.1371	0.3739	1.9219	4.2762	0.5113	2.9919	2.0823	3.6949
2.3940	1.0139	0.6114	1.6898	0.5506	3.2471	3.8554	0.9354	7.1143	3.0199	4.0165
2.3593	0.8744	0.6087	1.8050	0.3842	3.4365	6.5886	0.4978	4.0619	3.2164	5.9158
4.3405	1.2273	0.5780	1.4557	0.6365	3.5673	4.4029	1.0402	5.5100	2.8945	5.0019
3.3196	0.9287	0.5147	1.2844	0.4036	3.0739	4.0698	0.9368	6.0940	2.8218	4.7594
1.0454	0.2536	0.0443	0.1575	0.1111	1.0601	0.3070	0.4718	3.5924	0.7474	1.2316
3.0313	1.0386	0.5994	1.6502	0.5237	3.4170	4.9490	0.8245	5.5621	3.0436	4.9781
1.1340	0.1777	0.0186	0.1780	0.1282	0.1610	1.4461	0.2877	1.5269	0.1623	0.9499
0.7623	0.5722	0.0380	0.0561	0.2874	0.6090	0.3612	0.7426	0.8250	0.6418	0.8196
0.9131	1.1183	1.1644	1.2848	1.2976	1.1116	1.2160	0.8801	0.9127	1.0786	1.0459

LysoPC22:6	LysoPC22:5	PC32:2e	PC32:1e	PC34:2p	PC34:1p	PC34:0p	PC36:4p	PC36:3p	PC36:2p	PC36:1p
1.7840	0.8430	0.3459	1.1062	0.2499	4.5469	2.8521	0.3230	5.3559	2.7172	4.0279
3.4196	1.1250	0.8269	1.5967	1.0416	5.4217	4.2611	2.6000	9.6020	3.9183	7.1327
3.8966	0.9764	0.7698	1.4234	0.7398	3.4721	3.5180	1.4477	7.6487	2.7665	5.1767
3.0720	1.2706	0.7720	1.7130	0.9774	4.5898	4.5359	1.8392	10.7085	3.9550	5.8489
1.9224	0.7596	0.2208	0.7698	0.2137	2.2019	1.7828	0.4033	4.4536	1.8271	2.3525
2.9265	0.6336	0.5199	0.9571	0.4412	3.0762	2.4120	1.0290	5.7373	2.7266	4.4625
3.0334	0.9815	0.6475	1.3754	0.6771	4.4802	3.5437	1.4569	7.5355	3.1340	5.4458
1.1080	0.1411	0.2628	0.2487	0.3996	0.9765	0.7048	1.1385	2.1253	0.6797	1.5698
2.6403	0.8879	0.5042	1.1467	0.5441	3.2893	2.9102	1.0905	6.9665	2.8363	4.2213
0.6260	0.3374	0.2759	0.4993	0.3921	1.2081	1.4426	0.7199	3.3036	1.0682	1.7606
0.6210	0.6806	0.5503	0.5168	0.7019	0.2549	0.5319	0.6621	0.8142	0.7046	0.4194
0.8704	0.9047	0.7787	0.8337	0.8036	0.7342	0.8212	0.7485	0.9245	0.9050	0.7751

PC36:0p	PC38:4p	PC38:3p	PC38:2p	PC38:1p	PC40:6p	PC40:5p	PC40:4p	PC40:3p	PC40:2p	PC40:1p
2.4348	8.8061	7.0600	2.9851	1.2826	3.3248	2.8137	3.0037	2.2626	1.4560	0.5821
2.9855	6.9117	4.8716	1.8936	0.8914	3.7521	3.3559	1.9688	1.0963	0.5260	0.2860
2.6555	4.8977	3.1349	2.4439	1.1611	2.1460	1.5861	3.0989	1.5971	1.3512	0.7671
2.5104	7.5786	6.0889	2.4848	1.1315	2.3739	1.9114	2.2022	1.7799	1.1453	0.4495
3.4620	6.8453	4.7033	2.0175	1.2088	2.8136	1.9387	2.2617	1.6209	0.9186	0.4469
3.1958	7.3199	5.1210	2.6317	1.3053	3.6973	2.4979	3.1094	1.9154	1.2777	0.5216
2.6919	6.8718	5.0222	2.4409	1.1117	3.0743	2.5853	2.6904	1.6520	1.1111	0.5451
0.2772	1.9545	1.9669	0.5458	0.2002	0.8319	0.9067	0.6268	0.5851	0.5094	0.2427
3.0561	7.2480	5.3044	2.3780	1.2152	2.9616	2.1160	2.5244	1.7721	1.1139	0.4726
0.4909	0.3719	0.7108	0.3207	0.0870	0.6740	0.3310	0.5075	0.1474	0.1816	0.0424
0.3259	0.7598	0.8267	0.8717	0.4576	0.8642	0.4472	0.7394	0.7476	0.9933	0.6375
1.1353	1.0547	1.0562	0.9742	1.0931	0.9633	0.8185	0.9383	1.0727	1.0025	0.8671

PC36:0p	PC38:4p	PC38:3p	PC38:2p	PC38:1p	PC40:6p	PC40:5p	PC40:4p	PC40:3p	PC40:2p	PC40:1p
1.4827	4.3867	4.4069	1.2824	0.6176	1.2555	1.2941	1.1656	0.9769	0.3736	0.1682
2.7023	8.7548	7.2924	2.3496	1.2218	3.9080	3.4647	2.5050	1.7686	0.8017	0.3720
2.2495	7.4536	6.7230	1.8786	0.8222	3.1962	3.1500	2.2168	1.5484	0.6381	0.2730
2.7880	10.2782	9.1304	2.7719	1.0541	3.3538	2.9374	2.6839	2.0524	0.7899	0.3651
0.8680	3.7809	3.1150	0.9620	0.4329	1.1502	1.0463	0.8923	0.6661	0.2334	0.1101
1.5947	5.7984	4.3138	1.2818	0.7756	3.6228	2.5133	1.5381	1.0019	0.4508	0.3594
2.1448	6.8650	6.1408	1.8368	0.8872	2.7866	2.6363	1.9625	1.4313	0.6045	0.2711
0.6165	2.2428	1.5283	0.5348	0.3073	1.3729	1.1729	0.7050	0.4087	0.2160	0.1019
1.7502	6.6192	5.5197	1.6719	0.7542	2.7089	2.1656	1.7048	1.2401	0.4914	0.2782
0.9694	3.3255	3.1838	0.9659	0.3111	1.3566	0.9923	0.9074	0.7232	0.2805	0.1456
0.5839	0.9206	0.7759	0.8086	0.6261	0.9478	0.6238	0.7175	0.7106	0.6095	0.9479
0.8160	0.9642	0.8989	0.9102	0.8500	0.9721	0.8215	0.8687	0.8664	0.8129	1.0263

PC32:2	PC32:1	PC32:0	PC34:3	PC34:2	PC34:1	PC36:5	PC36:4	PC36:3	PC36:2	PC36:1	PC38:6
1.6998	4.8698	6.8781	9.0776	215.6263	94.1413	8.6519	78.0580	55.4523	117.1800	28.9872	39.3984
1.7381	5.5412	7.7870	9.5893	280.9822	126.3485	12.2622	77.5650	63.6382	113.3622	24.8255	73.9267
0.4291	4.1861	8.6455	5.1243	212.3872	95.7182	3.7654	48.4377	30.7865	69.7114	16.3444	33.3442
1.4011	5.0807	7.3320	7.5227	255.3079	130.6582	4.4330	68.8836	59.4612	143.6798	34.6228	29.8787
1.4186	9.1482	11.0366	8.1666	257.6482	160.1418	3.7296	45.7092	59.9674	122.1045	33.7317	27.7074
1.2000	4.8524	8.5903	8.9601	321.5911	142.8053	6.7448	85.5140	66.4710	144.5596	31.9723	57.6421
1.2890	4.8657	7.7702	7.9304	236.3319	105.4027	8.2265	68.0202	49.9590	100.0845	23.3857	48.8898
0.7450	0.6775	0.8838	2.4436	38.7022	18.1567	4.2643	16.9608	17.1009	26.3731	6.4432	21.8929
1.3399	6.3604	8.9863	8.2165	278.1824	144.5351	4.9691	66.7023	61.9665	136.7813	33.4423	38.4094
0.1215	2.4170	1.8838	0.7200	37.6112	14.8177	1.5775	19.9919	3.9092	12.7181	1.3487	16.6913
0.9126	0.3606	0.3687	0.8553	0.2504	0.0445	0.2825	0.9348	0.3014	0.0957	0.0572	0.5457
1.0395	1.3072	1.1565	1.0361	1.1771	1.3713	0.6040	0.9806	1.2403	1.3667	1.4300	0.7856

PC32:2	PC32:1	PC32:0	PC34:3	PC34:2	PC34:1	PC36:5	PC36:4	PC36:3	PC36:2	PC36:1	PC38:6
0.8681	2.1206	3.8310	3.8979	184.0293	66.6702	1.8194	60.0103	40.7503	79.2104	15.5165	21.5478
1.5805	3.3267	6.3776	5.6692	274.5600	91.6091	6.7905	86.3176	51.7612	118.2618	22.0117	55.5539
0.8488	2.7256	6.0606	4.4325	229.3259	80.0559	5.1120	81.8137	35.5901	83.7317	16.2148	59.9694
1.3802	3.8198	6.9739	8.0954	259.4250	93.7071	6.0969	125.7297	63.5513	102.4436	19.6273	51.2377
1.3094	2.0297	3.3617	3.6179	155.6768	53.0179	2.1559	45.3294	33.8694	66.7995	12.8195	17.7509
0.6241	1.4102	3.8102	3.4857	168.1792	53.9119	5.4281	51.6718	33.2408	79.1449	14.5766	43.9643
1.0991	2.7243	5.4231	4.6665	229.3051	79.4451	4.5740	76.0472	42.7005	93.7347	17.9143	45.6904
0.4170	0.6030	1.3878	0.9085	45.2653	12.4807	2.5288	14.0698	8.2601	21.3611	3.5655	21.0243
1.1046	2.4199	4.7153	5.0663	194.4270	66.8790	4.5603	74.2436	43.5538	82.7960	15.6744	37.6510
0.4176	1.2513	1.9689	2.6241	56.6360	23.2381	2.1090	44.7008	17.3211	18.1004	3.5342	17.6135
0.9880	0.7236	0.6376	0.8154	0.4516	0.4557	0.9946	0.9501	0.9423	0.5357	0.4828	0.6384
1.0050	0.8883	0.8695	1.0857	0.8479	0.8418	0.9970	0.9763	1.0200	0.8833	0.8750	0.8240

PC38:5	PC38:4	PC38:3	PC40:7	PC40:6	PC40:5
30.3580	76.4289	31.7369	3.3846	22.9106	8.7005
38.9963	54.3168	24.3189	4.7255	28.4908	10.0731
15.0681	30.5356	9.4798	1.9379	11.1640	4.4666
22.0077	60.2680	30.2003	2.0092	14.5027	7.3264
19.2327	34.3843	18.3517	2.9167	11.6600	5.1263
31.6289	62.0265	23.8356	3.9765	24.0155	8.9473
28.1408	53.7604	21.8452	3.3493	20.8551	7.7467
12.1172	22.9517	11.3329	1.3941	8.8444	2.9224
24.2897	52.2262	24.1292	2.9675	16.7261	7.1333
6.5056	15.4766	5.9297	0.9847	6.4708	1.9178
0.6530	0.9281	0.7725	0.7181	0.5496	0.7763
0.8631	0.9715	1.1046	0.8860	0.8020	0.9208

PC38:5	PC38:4	PC38:3	PC40:7	PC40:6	PC40:5
17.5861	45.8224	15.4612	1.5092	7.4382	4.1127
27.9340	56.1872	16.5716	2.8802	16.7386	6.0803
23.9225	55.5190	13.2076	2.4149	17.8458	5.4231
36.2619	89.0796	26.5262	3.2727	16.2542	8.0562
12.0995	30.5676	13.4836	1.0118	5.9961	3.0803
18.9216	37.6805	11.2608	2.8812	14.0612	4.3174
23.1475	52.5095	15.0801	2.2681	14.0075	5.2054
5.2173	5.8009	1.7141	0.6972	5.7161	1.0017
22.4277	52.4426	17.0902	2.3886	12.1038	5.1513
12.4569	31.9273	8.2470	1.2083	5.4019	2.5907
0.9309	0.9973	0.7006	0.8883	0.6966	0.9747
0.9689	0.9987	1.1333	1.0531	0.8641	0.9896

Table S3. Levels of lipid metabolites in human cancer cell lines.

		pmol/mg cell protein[a]								
metabolite[b]	Sample	PC	PE	PS	PA	PG	PI	LPC	LPE	LPS
A549 shControl	1	899.2753	18.9039	0.4605	0.4511	0.2374	8.6831	104.0814	3.0160	0.0366
	2	1011.7045	15.2624	0.6385	0.4395	0.3013	8.6990	89.1394	6.1410	0.0236
	3	643.8449	15.8857	1.4484	0.4056	0.2641	4.1804	82.0223	4.2915	0.1445
A549 shABHD6	4	939.2726	18.1905	0.5322	0.3193	0.3963	10.0203	129.4670	3.3576	0.0385
	5	886.9339	13.6218	0.5095	0.4570	0.2935	7.3023	101.0533	4.1829	0.0335
	6	1093.0132	15.6899	0.4700	0.4282	0.2385	7.5979	138.7879	2.8054	0.0555
A549 shControl	av	851.6082	16.6840	0.8491	0.4321	0.2676	7.1875	91.7477	4.4829	0.0683
	sem	188.5054	1.9476	0.5265	0.0236	0.0321	2.6043	11.2585	1.5713	0.0664
A549 shABHD6	av	973.0732	15.8340	0.5039	0.4015	0.3094	8.3068	123.1027	3.4487	0.0425
	sem	107.1169	2.2877	0.0314	0.0726	0.0801	1.4913	19.6559	0.6933	0.0115
	p-value	0.3868	0.6498	0.3203	0.5256	0.4482	0.5535	0.0746	0.3558	0.5440
	fold-change	1.1426	0.9491	0.5934	0.9291	1.1564	1.1557	1.3418	0.7693	0.6226
metabolite[b]		PC	PE	PS	PA	PG	PI	LPC	LPE	LPS
SPC-A-1 shControl	1	611.1370	12.9279	0.3197	0.3048	0.0859	4.0903	84.8426	1.9965	0.0137
	2	921.7535	21.3990	0.4013	0.5168	0.2322	5.9983	94.9142	2.4271	0.0495
	3	781.3258	15.9890	0.4239	0.6290	0.1020	4.7626	87.3519	1.9088	0.0238
SPC-A-1 shABHD6	4	994.6832	17.2402	0.4947	0.7616	0.1304	5.1667	103.4193	2.4393	0.0584
	5	491.4597	13.6254	0.5153	0.1862	0.1338	2.9013	86.6235	1.8820	0.0218
	6	593.1831	15.1139	0.2571	0.3884	0.1184	3.0190	72.9663	2.2699	0.0195
SPC-A-1 shControl	av	771.4054	16.7720	0.3816	0.4835	0.1400	4.9504	89.0362	2.1108	0.0290
	sem	155.5457	4.2895	0.0548	0.1646	0.0802	0.9678	5.2428	0.2774	0.0184
SPC-A-1 shABHD6	av	693.1087	15.3265	0.4224	0.4454	0.1275	3.6957	87.6697	2.1971	0.0332
	sem	266.0777	1.8167	0.1435	0.2919	0.0081	1.2754	15.2534	0.2857	0.0218
	p-value	0.6827	0.6195	0.6698	0.8533	0.8013	0.2462	0.8904	0.7264	0.8121
	fold-change	0.8985	0.9138	1.1068	0.9211	0.9106	0.7465	0.9847	1.0409	1.1444

[a] all values are pmoles/mg cell protein.

[b] metabolite abbreviations are as follows: PC,phosphatidylcholines;PE,phosphatidylethanolamines;PS,phosphatidylserines;PA,phosphatidic acids;PG,ph

LPA	LPI
0.4050	2.2812
0.2715	1.4636
0.1409	2.5484
0.4736	2.6829
0.4789	2.3461
0.4474	3.7062
0.2725	2.0977
0.1320	0.5652
0.4666	2.9117
0.0169	0.7084
0.0649	0.1947
1.7126	1.3880

LPA	LPI
0.2037	0.9182
0.4336	5.6714
0.2945	2.3463
0.3846	6.1514
0.0924	0.8445
0.1603	1.3596
0.3106	2.9786
0.1158	2.4389
0.2124	2.7852
0.1530	2.9266
0.4255	0.9341
0.6840	0.9351

osphatidylglycerols;PI,phosphatidylinositols;LBPA,lyso-bisphosphatidic acids;LPC,lyso-PC;LPE,lyso-PE;LPS,lyso-PS;LPA,lyso-PA;LPI,lyso-PI.