

Flow cytometry

ALDH ⁺ cells (%)										
	-	-	-	-	α -toc	α -toc	Lip-1	Lip-1	3-MA	3-MA
PS-T (μ g/mL)	0	10	20	50	0	10	0	10	0	10
1-1	5.79	3.62	2.01	1.16	5.59	5.20	7.06	6.99	5.86	6.23
1-2	6.08	4.39	2.90	1.66	5.26	5.16	7.22	6.61	5.78	6.55
1-3	5.24	4.04	2.35	1.33	5.09	5.12	7.54	6.88	6.02	6.40
2-1	5.73	3.70	2.73	1.41	5.01	5.38	6.63	6.91	6.77	5.52
2-2	5.67	3.92	2.35	1.26	5.00	4.98	6.66	7.27	6.53	5.90
2-3	5.63	3.27	1.94	1.16	5.49	5.08	6.73	6.02	6.95	5.40
3-1	5.64	3.46	2.39	0.95	5.07	5.09	7.21	6.16	6.58	5.77
3-2	5.28	4.51	1.89	0.95	5.75	5.57	7.22	6.56	6.29	5.36
3-3	5.93	3.84	1.84	1.37	5.24	5.10	6.78	6.49	6.61	5.65

CD44 ^{low} CD24 ^{high} cells (%)										
	-	-	-	-	α -toc	α -toc	Lip-1	Lip-1	3-MA	3-MA
PS-T (μ g/mL)	0	10	20	50	0	10	0	10	0	10
1-1	12.10	7.84	4.45	3.86	11.40	8.56	13.60	9.47	11.70	8.76
1-2	11.50	7.27	5.64	3.38	9.16	9.40	12.70	10.50	11.60	8.35
1-3	11.60	6.96	5.18	0.68	10.40	9.06	12.70	12.60	12.30	7.97
2-1	11.20	7.20	4.54	1.99	11.50	10.00	11.70	12.80	13.50	8.56
2-2	10.90	6.72	4.99	3.42	10.80	10.70	13.70	11.10	10.70	8.60
2-3	10.20	6.58	5.00	1.59	10.40	9.31	13.90	12.30	11.90	8.57
3-1	13.00	6.73	4.73	1.66	9.87	9.21	14.00	12.40	9.80	8.99
3-2	12.40	6.43	4.56	1.56	9.30	9.28	13.60	13.00	9.58	8.30
3-3	10.20	6.32	4.15	0.72	9.27	8.72	13.30	12.20	11.40	9.43

Colony formation assays

Colonies / 2000 cells						
PS-T (μ g/mL)	0	1	5	10	20	50
1	608	620	570	467	431	385
2	611	595	571	474	447	364
3	617	598	600	402	392	374

Colonies / 2000 cells								
	-	-	α -toc	α -toc	Lip-1	Lip-1	3-MA	3-MA
PS-T	-	+	-	+	-	+	-	+
1	424	358	403	412	386	418	396	407
2	445	342	426	435	411	427	428	428
3	416	335	418	423	391	420	392	432

Mammosphere assays

Sphere / 2000 cells												
	-	-	-	-	-	-	α -toc	α -toc	Lip-1	Lip-1	3-MA	3-MA
PS-T (μ g/mL)	0	1	5	10	20	50	0	10	0	10	0	10
1-1	59	48	47	28	18	17	53	58	51	58	55	62
1-2	58	45	46	34	19	10	50	50	54	57	47	49
1-3	56	53	49	31	23	11	49	53	50	64	53	57
2-1	58	46	39	28	21	12	44	51	46	50	49	60
2-2	50	46	47	31	27	9	52	54	48	47	54	64
2-3	65	49	44	32	21	18	48	50	51	55	51	54
3-1	53	52	50	26	19	16	46	48	50	51	53	51
3-2	50	47	47	28	20	16	49	61	41	53	60	46
3-3	49	50	44	35	20	11	50	53	47	50	58	54

CKK-8 assays

		Relative cell viability (%)								
PS-T (μg/mL)		0	1	5	10	20	50	100	200	500
DMSO	1-1	100.00	94.92	85.02	92.61	86.81	87.85	83.86	59.93	60.23
	1-2	100.00	95.64	88.08	89.96	84.60	83.97	50.80	58.53	58.97
	1-3	100.00	99.53	92.83	84.67	75.05	67.57	75.46	61.53	73.03
	2-1	100.00	107.22	107.12	101.77	94.98	86.35	71.53	56.65	48.19
	2-2	100.00	109.41	105.33	85.24	90.26	85.20	74.77	74.06	50.61
	2-3	100.00	95.14	109.18	86.02	93.43	82.69	79.47	76.19	55.78
	3-1	100.00	106.45	97.46	84.77	78.85	78.78	73.64	65.16	48.25
	3-2	100.00	104.11	103.47	93.43	90.75	82.41	82.85	76.93	60.41
	3-3	100.00	107.80	104.40	104.90	90.21	78.20	86.81	81.47	57.38
Z-VAD-FMK	1-1	100.00	118.57	107.55	92.87	103.14	79.79	82.40	74.01	66.64
	1-2	100.00	101.88	101.07	100.41	92.22	78.94	76.98	78.23	68.03
	1-3	100.00	105.02	109.29	95.43	89.11	88.02	80.98	82.34	59.30
	2-1	100.00	105.33	97.46	95.01	87.11	86.31	83.86	73.59	68.22
	2-2	100.00	100.62	96.01	90.14	85.65	84.29	74.62	76.32	60.69
	2-3	100.00	92.61	102.95	82.96	91.13	76.04	72.49	68.82	59.23
	3-1	100.00	99.78	112.14	96.36	81.10	89.59	76.51	79.45	64.31
	3-2	100.00	96.07	87.04	93.09	89.72	89.07	88.06	65.96	63.60
	3-3	100.00	90.07	81.04	86.09	80.72	83.07	79.06	63.57	73.60
Necro-1	1-1	100.00	108.26	100.95	87.29	82.05	90.82	86.85	78.23	50.12
	1-2	100.00	99.37	104.23	106.70	93.39	93.98	86.03	78.37	62.33
	1-3	100.00	104.47	96.88	109.93	95.83	78.30	74.42	59.75	67.20
	2-1	100.00	99.61	99.40	80.85	82.22	88.31	76.81	75.72	58.15
	2-2	100.00	111.17	97.54	89.91	89.60	86.01	82.47	61.83	52.87
	2-3	100.00	103.52	88.31	89.22	88.81	68.98	78.05	71.16	60.93
	3-1	100.00	92.72	90.19	79.48	82.73	78.35	69.92	70.48	66.48
	3-2	100.00	97.82	105.32	87.48	88.97	75.08	71.41	61.74	73.08
	3-3	100.00	92.35	92.45	84.79	84.81	85.17	70.91	77.75	61.71
LDC7559	1-1	100.00	98.54	90.61	85.80	96.43	82.37	76.85	68.63	51.87
	1-2	100.00	101.35	108.64	90.64	72.75	67.65	77.72	59.08	54.12
	1-3	100.00	110.67	113.31	85.29	96.59	83.20	87.39	77.78	67.21
	2-1	100.00	90.41	98.79	96.11	85.31	85.37	72.94	68.93	60.45
	2-2	100.00	98.75	96.67	99.39	88.69	73.86	79.25	77.98	58.42
	2-3	100.00	93.97	91.98	80.35	75.54	78.11	69.69	63.71	62.79
	3-1	100.00	105.98	84.33	90.05	94.14	91.57	70.13	66.48	60.32
	3-2	100.00	102.38	99.99	93.25	86.78	73.23	72.86	64.82	53.92
	3-3	100.00	96.93	92.55	87.96	79.24	89.48	67.86	72.40	63.69
α-toc	1-1	100.00	95.20	97.94	86.12	102.29	83.06	88.52	95.31	78.98
	1-2	100.00	110.49	106.48	106.61	94.41	89.89	100.99	80.57	87.29
	1-3	100.00	116.07	111.07	103.42	92.49	99.50	87.42	91.97	81.66
	2-1	100.00	82.78	87.79	89.31	85.75	89.22	92.79	99.04	95.07
	2-2	100.00	91.84	103.85	98.51	89.26	94.79	91.26	84.43	79.13
	2-3	100.00	91.08	98.08	94.41	98.13	93.17	84.99	81.12	84.83
	3-1	100.00	102.97	86.26	100.88	91.83	100.09	89.41	89.19	84.88
	3-2	100.00	101.99	100.94	93.80	104.85	96.54	102.18	86.49	91.20
	3-3	100.00	102.56	93.17	92.18	98.02	87.32	79.59	79.36	72.05
Lip-1	1-1	100.00	96.60	97.33	98.31	98.37	92.56	89.90	92.15	95.50
	1-2	100.00	88.81	105.32	104.99	92.91	86.62	97.56	77.52	84.62
	1-3	100.00	106.68	101.27	98.64	104.96	98.91	106.97	85.62	91.15
	2-1	100.00	102.69	91.50	89.25	91.91	91.49	85.24	73.50	74.24
	2-2	100.00	99.23	109.08	100.19	93.50	101.16	89.67	98.93	84.17
	2-3	100.00	106.61	97.80	84.83	98.10	85.17	82.43	79.97	81.81
	3-1	100.00	107.98	93.10	92.03	89.28	91.94	77.73	94.29	85.16
	3-2	100.00	104.62	103.33	106.78	94.96	90.83	83.73	95.26	73.49
	3-3	100.00	102.87	95.51	92.04	85.56	76.25	74.49	69.06	71.57

ROS and lipid oxidation experiments (ALDH⁺ MDA-MB-231 cells)

DCF fluorescence (MFI)								
	-	-	α -toc	α -toc	Lip-1	Lip-1	3-MA	3-MA
PS-T	-	+	-	+	-	+	-	+
1-1	75.41	97.01	61.81	70.95	61.88	66.88	67.74	82.44
1-2	56.44	101.43	74.40	65.77	62.84	64.61	78.20	80.28
1-3	74.23	94.25	66.55	68.41	70.32	63.00	69.39	85.63
2-1	47.10	102.60	51.49	70.27	60.04	62.64	74.16	81.05
2-2	67.87	100.12	63.71	68.77	61.79	66.03	74.34	71.50
2-3	70.67	102.13	66.86	76.69	62.46	62.94	77.00	81.19
3-1	68.56	103.59	47.70	73.15	61.31	70.42	75.48	77.77
3-2	71.88	94.07	47.25	68.95	54.94	65.58	67.20	72.51
3-3	73.88	93.61	61.01	60.97	65.13	74.11	75.37	84.21

C11 BODIPY fluorescence (MFI)										
	-	-	-	-	α -toc	α -toc	Lip-1	Lip-1	3-MA	3-MA
PS-T (μ g/mL)	0	10	20	50	0	10	0	10	0	10
1-1	322	454	546	615	228	287	277	292	328	354
1-2	303	445	545	641	217	272	252	291	330	364
1-3	292	489	568	619	211	282	263	291	337	349
2-1	295	400	561	632	238	256	269	299	348	377
2-2	319	436	554	604	277	318	266	312	362	369
2-3	326	494	572	613	203	301	260	297	353	349
3-1	317	508	579	614	222	277	261	287	354	346
3-2	314	464	563	625	220	283	250	264	330	379
3-3	307	506	546	685	213	280	275	295	325	358

MDA concentration (μ mol/mg)										
	-	-	-	-	α -toc	α -toc	Lip-1	Lip-1	3-MA	3-MA
PS-T (μ g/mL)	0	10	20	50	0	10	0	10	0	10
1-1	0.90	1.56	2.04	3.34	0.51	0.83	0.48	0.97	1.04	1.46
1-2	0.95	2.36	3.27	4.46	0.69	1.23	0.07	0.80	1.18	1.30
1-3	1.17	1.93	3.04	3.26	0.45	0.64	0.61	0.97	1.09	1.10
2-1	1.24	2.14	3.06	3.57	0.67	0.75	0.88	0.89	1.27	1.34
2-2	0.80	1.84	3.16	3.84	0.72	1.02	0.60	0.72	1.74	1.70
2-3	0.83	2.25	3.35	4.42	0.46	1.10	0.84	1.16	0.89	1.78
3-1	1.10	1.38	1.92	2.47	0.60	0.75	0.78	0.83	1.02	1.03
3-2	1.07	1.35	1.77	2.28	0.60	0.79	0.51	0.70	1.00	0.89
3-3	1.08	1.34	1.70	2.39	0.96	0.95	0.67	0.85	1.16	1.16
4-1	0.98	1.77	2.03	3.22	0.56	0.84	0.88	1.03	1.24	1.41
4-2	1.09	1.10	1.67	2.59	0.47	0.87	0.69	0.88	0.95	1.16
4-3	0.82	1.01	1.55	2.59	0.47	0.90	0.88	0.93	1.07	1.13

ROS and lipid oxidation experiments (Xenograft tumors)

	C11 BODIPY fluorescence (MFI)		MDA concentration (μ mol/mg)	
PS-T	-	+	-	+
1-1	1428	2600	0.93	1.74
1-2	1530	2892	0.92	1.42
1-3	1399	3018	1.20	1.64
2-1	1481	2379	1.16	1.89
2-2	1531	1909	1.06	2.13
2-3	1508	2105	0.94	1.93
3-1	1463	2791	1.29	1.55
3-2	1320	1903	1.12	2.27
3-3	1450	2345	1.23	1.71

Western blotting

Relative gray scale												
	GPX4		FTH1		SLC7A11		DMT1		NRF2		NCOA4	
PS-T	-	+	-	+	-	+	-	+	-	+	-	+
1	0.90	0.46	0.89	0.75	0.96	0.91	1.09	0.83	1.21	1.09	0.97	1.09
2	0.91	0.45	0.88	0.90	1.10	0.90	0.96	0.96	1.25	1.14	1.08	1.12
3	0.91	0.38	0.77	0.98	1.00	1.01	1.08	0.77	1.29	1.16	0.93	0.98

Relative gray scale				
PS-T (µg/mL)	0	10	20	
ASM	1	0.56	0.79	1.18
	2	0.55	0.84	1.09
	3	0.50	0.84	1.13
	4	0.67	0.99	1.11

Relative gray scale					
3-MA		-	-	+	+
PS-T		-	+	-	+
LC3	1	1.27	1.55	0.72	1.06
	2	0.77	1.09	0.62	0.83
	3	0.74	0.66	0.61	0.85
GPX4	1	1.06	0.55	0.76	1.13
	2	1.18	0.61	0.81	0.95
	3	1.15	0.65	0.70	1.10

Relative gray scale					
ASM-IN-1		-	-	+	+
PS-T		-	+	-	+
ASM	1	0.61	1.29	0.63	0.60
	2	0.54	1.15	0.29	0.38
	3	0.74	0.83	0.26	0.62
LC3	1	1.08	1.28	1.06	1.03
	2	1.02	1.13	0.94	0.97
	3	1.06	1.24	0.99	1.12
GPX4	1	1.07	0.44	1.23	0.80
	2	0.92	0.40	1.34	0.98
	3	1.00	0.34	1.31	0.96

Quantitative PCR

Relative mRNA level					
	GPX4		SMPD1		
PS-T (µg/mL)	0	10	0	10	50
1-1	1.00	0.81	1.00	1.13	1.10
1-2	1.00	1.09	1.00	1.45	1.06
1-3	1.00	1.08	1.00	1.05	1.74
2-1	1.00	1.11	1.00	1.27	1.66
2-2	1.00	1.02	1.00	1.20	1.18
2-3	1.00	0.99	1.00	1.08	1.91
3-1	1.00	1.01	1.00	1.09	1.28
3-2	1.00	0.98	1.00	0.98	1.95
3-3	1.00	1.02	1.00	1.14	1.12

Relative mRNA level										
	-	-	-	α-toc	α-toc	Lip-1	Lip-1	3-MA	3-MA	
PS-T (μg/mL)	0	10	50	0	10	0	10	0	10	
POU5F1	1-1	1.00	0.56	0.38	1.05	0.90	0.98	0.90	0.86	1.03
	1-2	1.00	0.62	0.34	0.92	0.92	1.05	0.80	0.98	0.91
	1-3	1.00	0.69	0.33	1.10	0.95	1.17	0.94	0.89	1.05
	2-1	1.00	0.55	0.21	1.04	0.93	0.98	1.01	1.06	1.06
	2-2	1.00	0.69	0.31	0.79	0.80	1.08	0.88	0.87	0.79
	2-3	1.00	0.46	0.42	0.99	0.89	1.12	0.93	1.09	1.03
	3-1	1.00	0.81	0.24	0.90	0.84	0.84	0.87	1.01	0.88
	3-2	1.00	0.70	0.26	0.94	0.86	0.99	0.82	0.79	1.05
	3-3	1.00	0.46	0.44	1.03	0.95	0.97	0.74	0.89	1.12
SOX2	1-1	1.00	0.73	0.43	0.88	0.92	1.01	0.88	0.94	0.80
	1-2	1.00	0.73	0.34	0.97	0.85	0.97	1.02	0.86	0.77
	1-3	1.00	0.84	0.42	1.03	0.87	1.17	0.92	0.96	0.76
	2-1	1.00	0.87	0.39	0.94	0.95	1.11	0.87	1.00	0.94
	2-2	1.00	0.67	0.27	1.08	0.94	0.91	0.83	0.88	0.86
	2-3	1.00	0.80	0.58	1.08	0.97	1.05	1.00	1.00	0.89
	3-1	1.00	0.72	0.38	1.07	0.91	0.94	0.75	0.92	0.85
	3-2	1.00	0.56	0.49	0.97	1.11	0.84	0.86	0.98	0.94
	3-3	1.00	0.64	0.44	0.89	0.96	0.89	0.92	0.87	1.00
NAONG	1-1	1.00	0.55	0.45	1.07	1.00	1.06	1.07	1.09	0.95
	1-2	1.00	0.61	0.20	0.87	0.92	0.97	0.94	0.98	0.83
	1-3	1.00	0.53	0.26	1.08	0.96	0.96	1.02	1.08	0.99
	2-1	1.00	0.68	0.38	0.95	0.87	0.91	0.84	1.03	0.94
	2-2	1.00	0.51	0.34	1.17	1.17	1.19	1.01	0.89	0.74
	2-3	1.00	0.49	0.41	1.08	1.02	1.14	1.17	1.06	0.94
	3-1	1.00	0.66	0.33	1.13	1.08	1.00	0.98	0.99	0.92
	3-2	1.00	0.46	0.28	0.90	0.88	1.15	1.17	0.95	1.10
	3-3	1.00	0.56	0.40	1.10	0.97	1.08	1.23	0.93	1.01

IHC staining (Xenograft tumors)

IHC score						
	ASM		LC3		GPX4	
PS-T	-	+	-	+	-	+
1-1	0	9	0	6	9	0
1-2	3	6	0	8	12	1
1-3	2	12	1	8	9	0
2-1	0	4	0	9	12	0
2-2	3	6	0	8	12	2
2-3	2	8	0	9	8	1
3-1	2	6	0	8	12	0
3-2	2	8	0	8	8	2
3-3	2	12	0	9	12	1

MFI				
	GPX4		ASM	
PS-T	-	+	-	+
1-1	50.78	40.26	24.26	30.37
1-2	56.95	38.16	23.72	34.00
1-3	57.71	40.81	22.19	31.10
2-1	51.21	40.13	22.65	30.63
2-2	48.95	42.28	21.72	34.24
2-3	53.30	44.66	21.28	32.35
3-1	52.32	36.84	20.35	32.38
3-2	49.22	42.56	22.24	32.44
3-3	44.85	40.03	23.88	44.12

IHC staining (Patients samples)

IHC score						
	ASM		LC3		GPX4	
	low	high	low	high	low	high
ASM						
patient 1	0	9	0	12	4	1
patient 2	0	6	1	12	6	1
patient 3	0	9	2	9	6	0
patient 4	2	12	3	12	12	0
patient 5	0	12	2	12	9	0
patient 6	1	9	1	9	8	0

Sequences

TPM of GPX4						
	MDA-MB-231		HCC1806		HCC1937	
PS-T	-	+	-	+	-	+
1	373.57	407.96	616.19	646.30	247.31	264.78
2	369.95	387.07	577.83	632.35	240.22	269.53
3	358.19	412.26	596.11	613.90	257.67	258.14