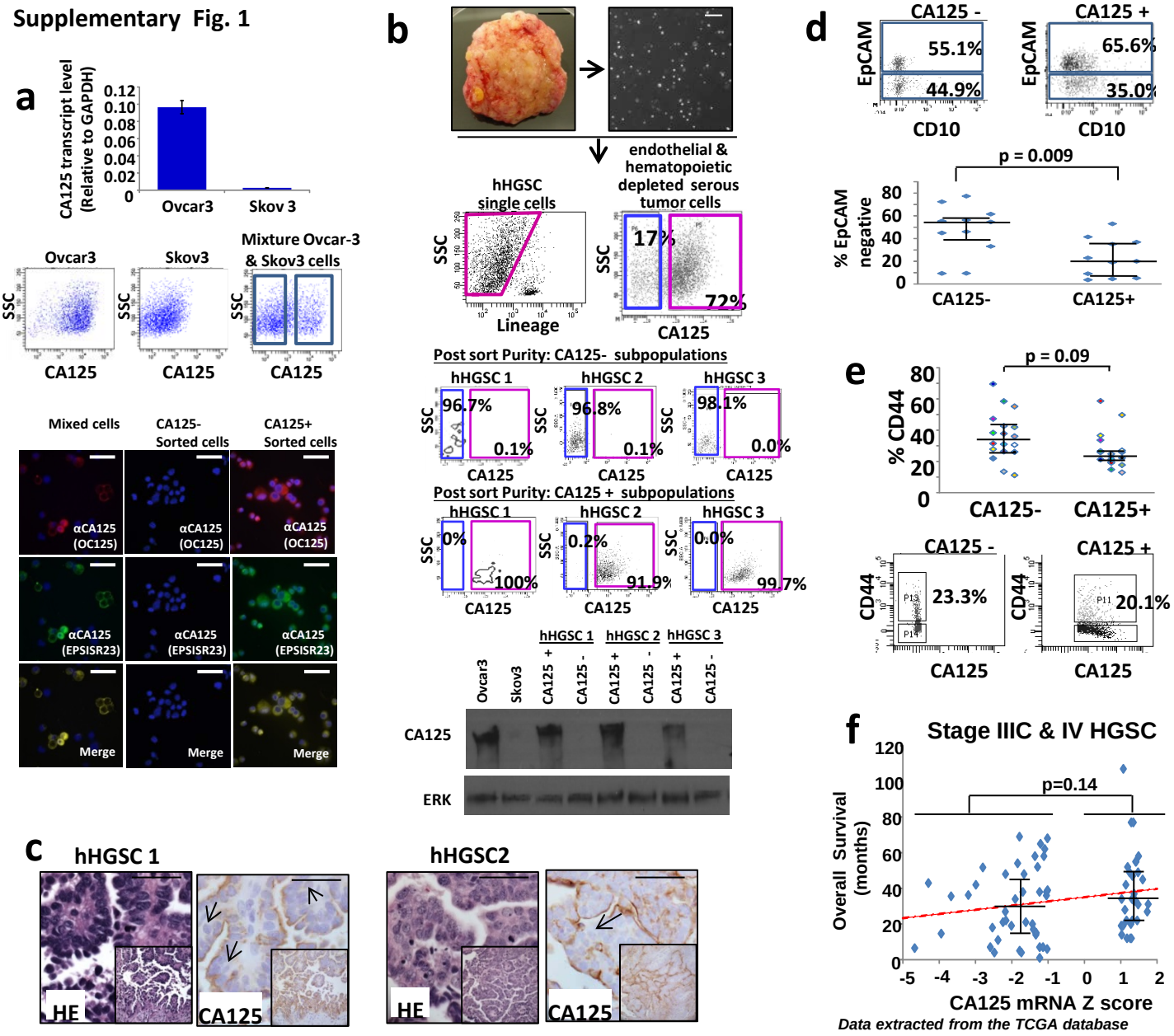
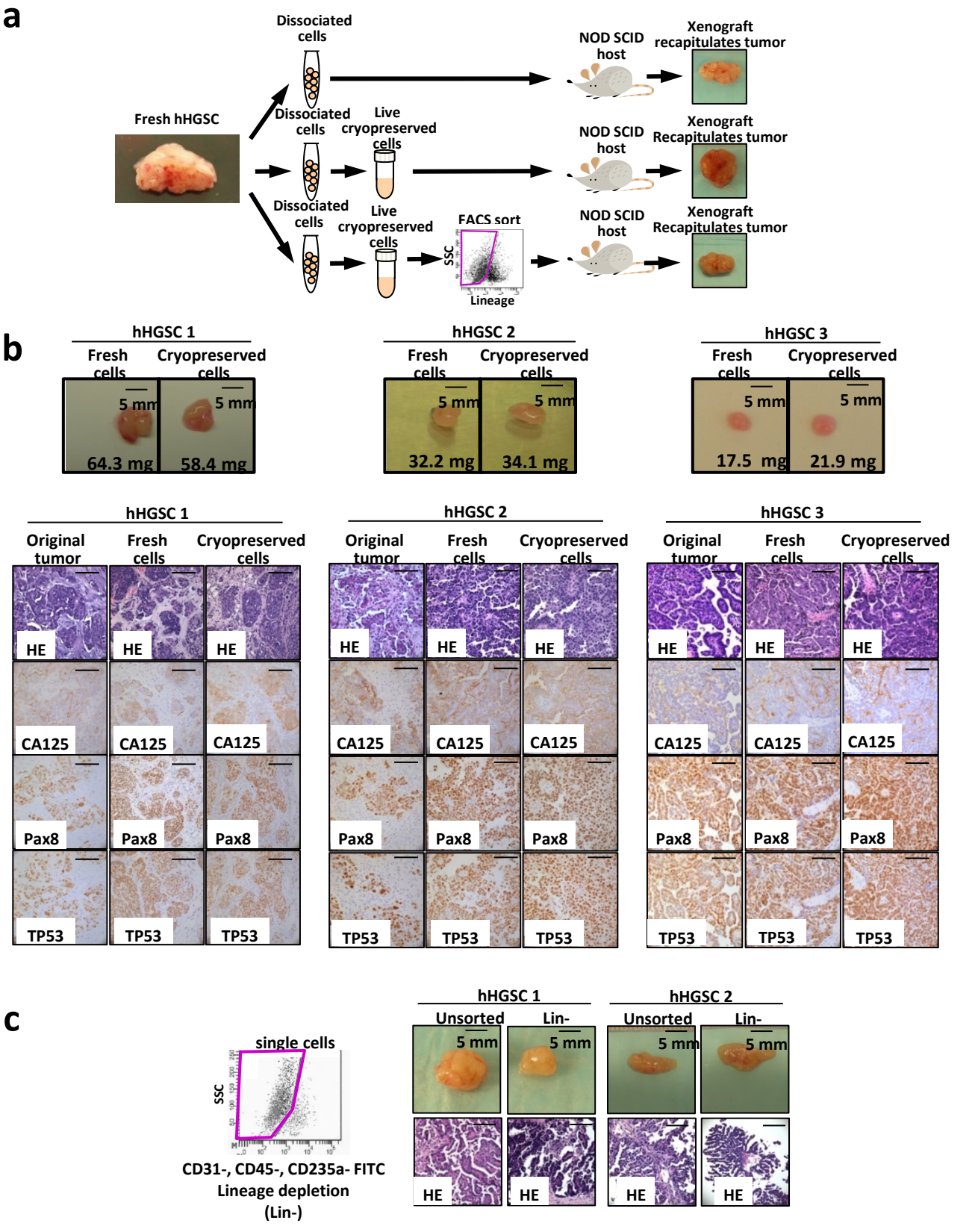
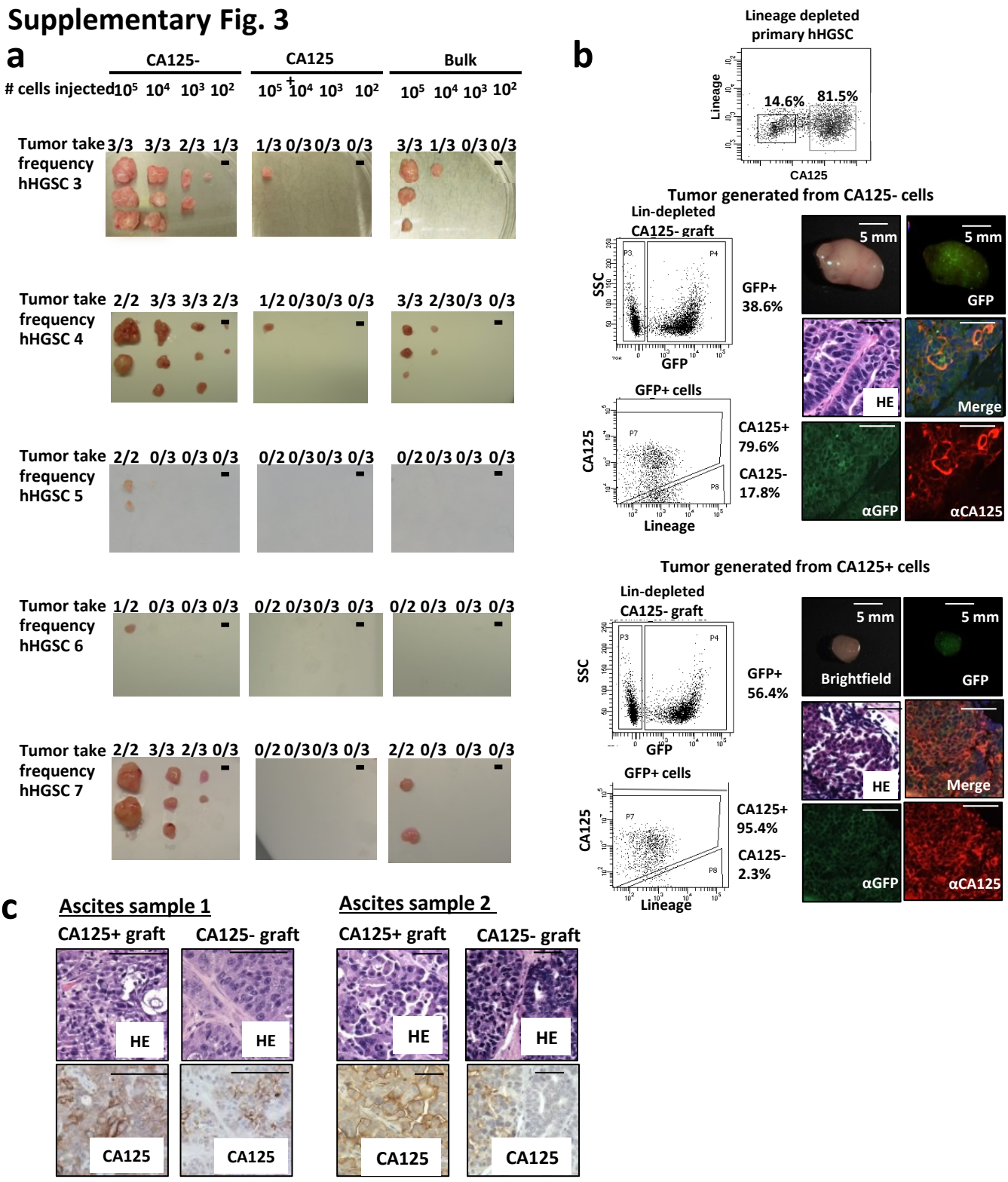


Supplementary Figure 1. FACS analysis can be used to reliably isolate CA125 positive versus negative cells from high grade serous cancers. (a) Quantitative-PCR measurement of CA125 transcripts confirmed reports that CA125 is highly expressed in Ovcar-3 but not Skov3 cells. Results are mean ± SD, n=3. To validate detection of CA125 antigen, mixed populations of Ovcar-3 and Skov-3 cells were stained with commercially available OC125 antibody, isolated using FACS and cytospun. Appropriate signal was detected by fluorescent microscopy in sorted cell populations. Probing these samples with a second anti-CA125 antibody directed against a different epitope of the antigen confirmed the accuracy of this isolation. **(b)** Human HGSCs were mechanically and enzymatically dissociated to single cells and analyzed by FACS. After elimination of hematopoietic, endothelial and red blood cells using the lineage markers CD31, CD45 and CD235a the proportions of CA125 positive and negative cells were determined. Post-sort purity analysis showed accurate separation of these cellular subpopulations (n=3) confirmed by western blot. Scale bars equal 5 mm for tumor and 100 µm for cells. **(c)** Immunostaining of human HGSCs confirmed presence of CA125 negative cells (arrows). Scale bars equal 5 mm for tumor and 100 µm for cells. **(d)** FACS analysis of CA125 subpopulations co-stained with the epithelial marker EpCAM and Müllerian stromal marker CD10 demonstrates the presence of cells expressing epithelial and/or stromal marker in each fraction. Results are median ± interquartile range [IQR], n=11. **(e)** Analysis of CD44 expression by FACS revealed the presence of CD44 positive cells in both the CA125 negative and CA125 positive HGSC subpopulations. Results are median ± IQR, n=16. **(f)** Analysis of 73 stage IIIC and IV HGSC from the TCGA database demonstrated a trend toward shorter overall survival in patients with lower CA125 mRNA levels in their tumors. Patients with mRNA Z score levels above or below 1 were included in this analysis. Results are median ± IQR.

Supplementary Fig. 2

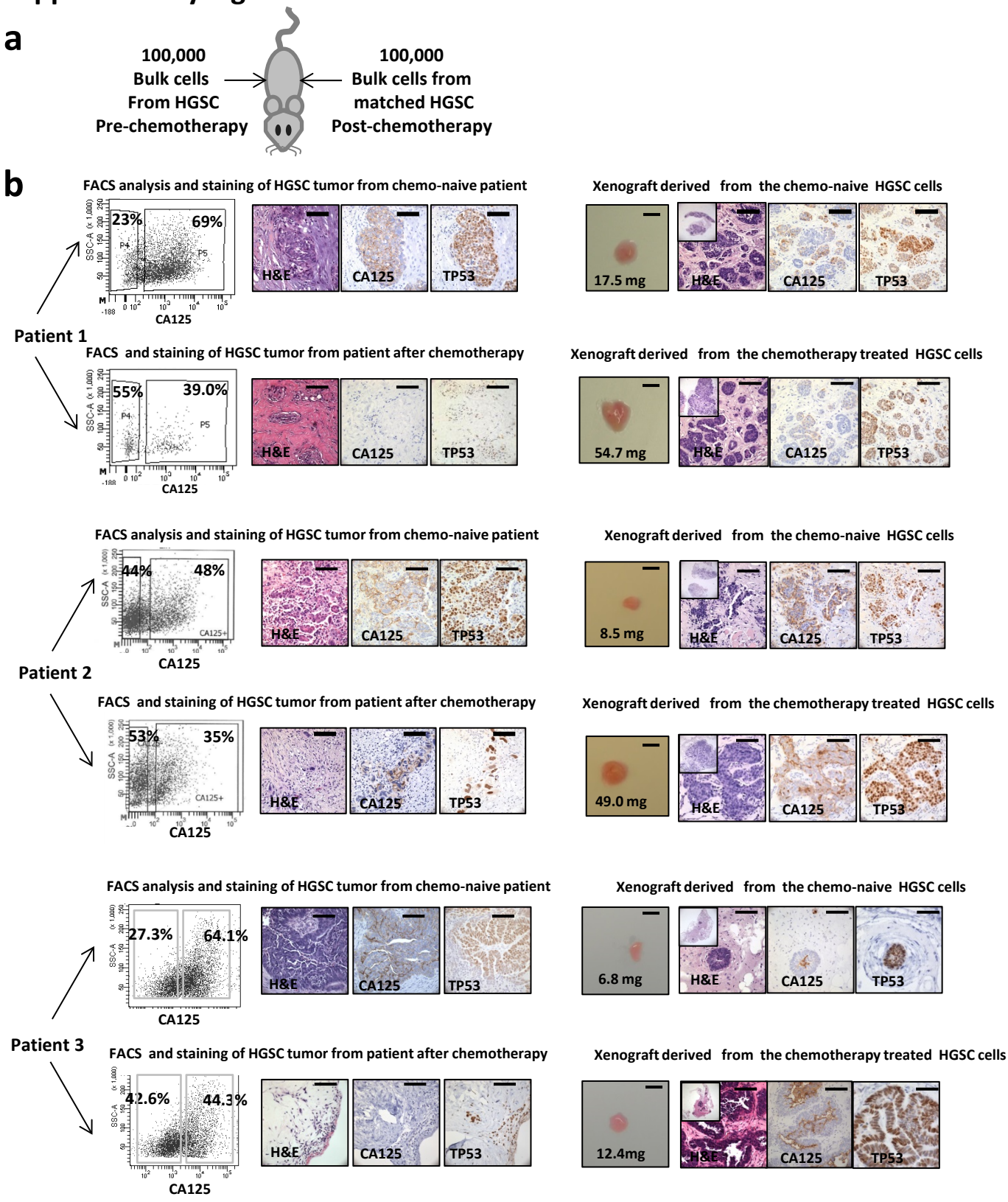


Supplementary Figure 2. Live-bank cryopreservation did not alter the growth characteristics of primary human high-grade serous tumor cells. (a) Freshly dissociated, live-banked or live-banked and then sorted primary human HGSC cells gave rise to xenografts in vivo. **(b)** Tumors generated from equal numbers of fresh vs matched live-banked cryopreserved cells demonstrated similar size, serous histology and marker expression profile (n=3). **(c)** Equal numbers of cryopreserved or cryopreserved and lineage depleted FACS sorted serous tumor cells were injected in vivo (n=2). Results demonstrate that serous tumors could be generated from cryopreserved and FACS sorted cells. Scale bars equal 100 µm unless noted.



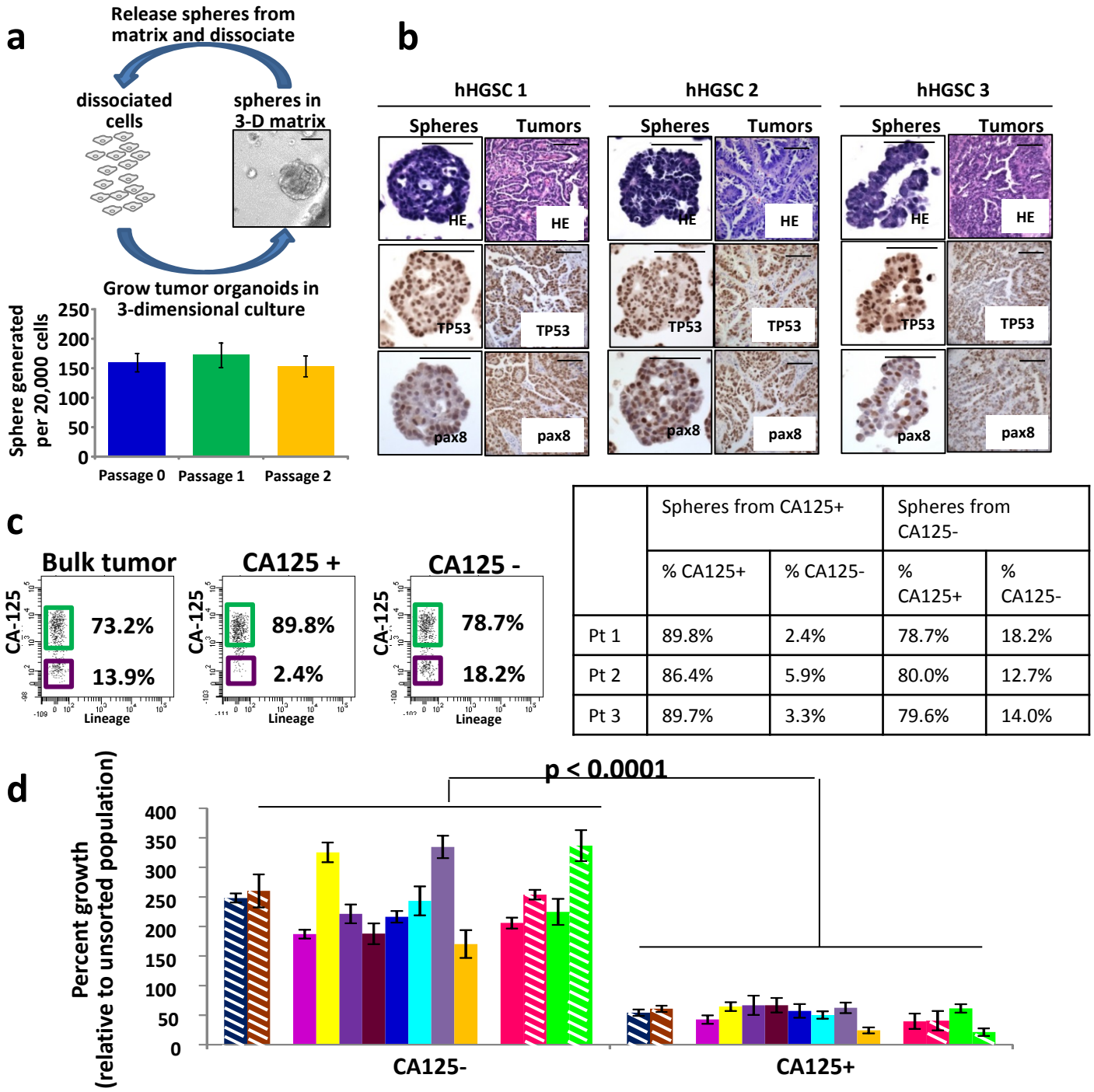
Supplementary Figure 3. The CA125 negative tumor cells efficiently initiate the tumor and undergo multi-lineage differentiation in vivo. (a) Limiting dilution assays confirmed CA125 negative cells were the cells that initiate serous tumors. Gross tumors generated from 5 other independent chemo-naive human HGSCs used in this experiment are shown. Scale bars equal 5 mm. **(b)** In vivo lineage tracing experiments on a second independent specimen confirmed that the CA125 negative HGSC subpopulation could differentiate into both CA125 positive and CA125 negative cells, while progeny of CA125 positive cells were predominantly CA125 positive. Scale bars equal 5 mm for gross tumors and 50 µm for stained cells. **(c)** In the two ascites samples that exhibited growth from both CA125 subpopulations, tumors generated from the CA125 negative HGSC cells expressed CA125 on some but not all cells while tumors generated from CA125 positive cells uniformly expressed CA125. Scale bars equal 50 µm.

Supplementary Fig. 4



Supplementary Figure 4. Human high-grade serous cancers have a higher proportion of CA125 negative cells and increased tumor growth capacity after chemotherapy. (a) Equal numbers of matched enumerated bulk tumor cells (100,000 cells) obtained from the same patient before and after chemotherapy were injected in the subcutaneous space on opposing flanks of an immunocompromised mouse (n=3). **(b)** Matched human HGSC specimens obtained before and after platinum chemotherapy from 3 independent patients demonstrated an increased proportion of CA125 negative cells following chemotherapy. In each case, larger tumors were generated from the bulk tumor cells harvested after chemotherapy. Presence of tumor in all specimens was confirmed histologically and by staining for TP53. Scale bars equal 100 µm.

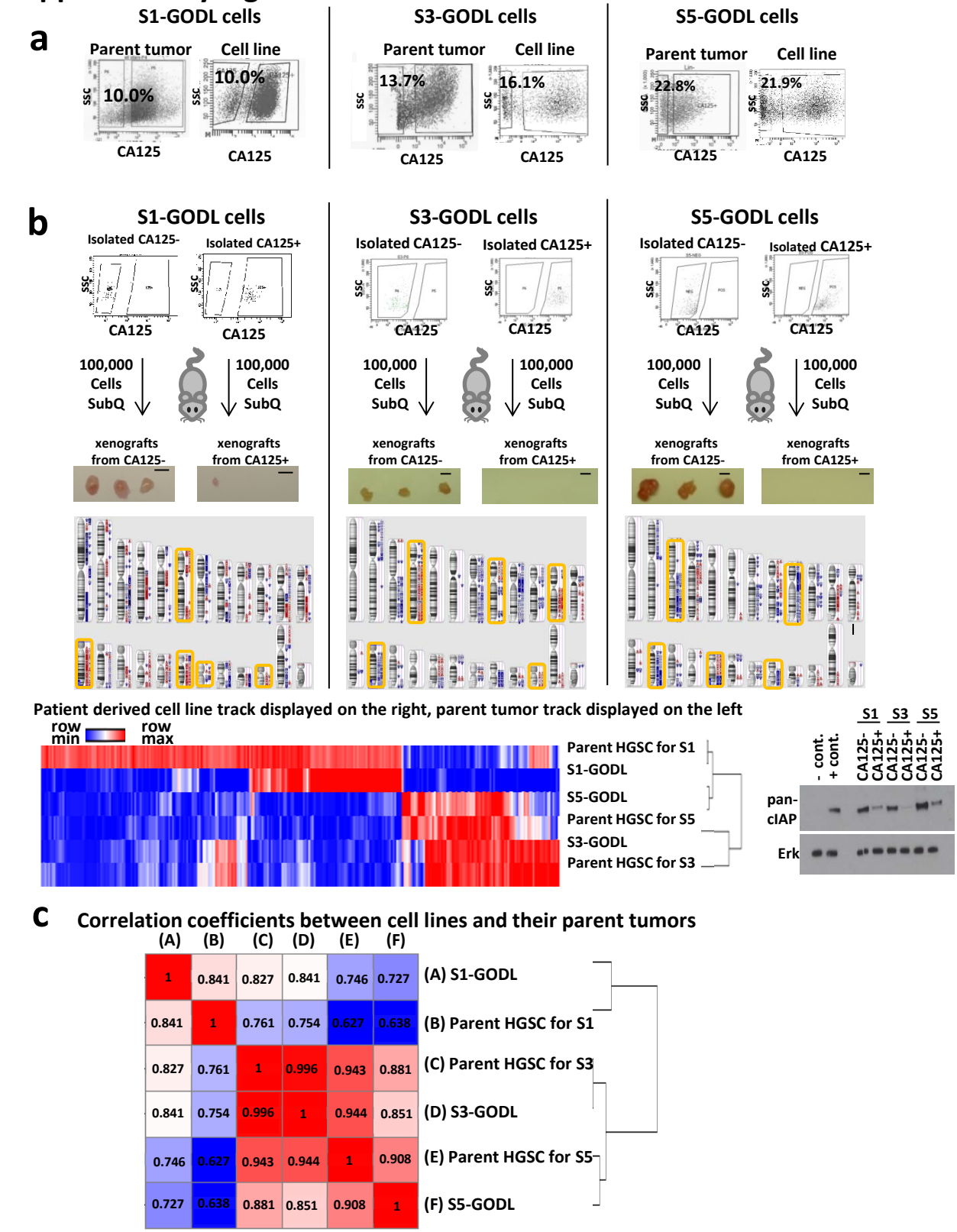
Supplementary Fig. 5



	Spheres from CA125+		Spheres from CA125-	
	% CA125+	% CA125-	% CA125+	% CA125-
Pt 1	89.8%	2.4%	78.7%	18.2%
Pt 2	86.4%	5.9%	80.0%	12.7%
Pt 3	89.7%	3.3%	79.6%	14.0%

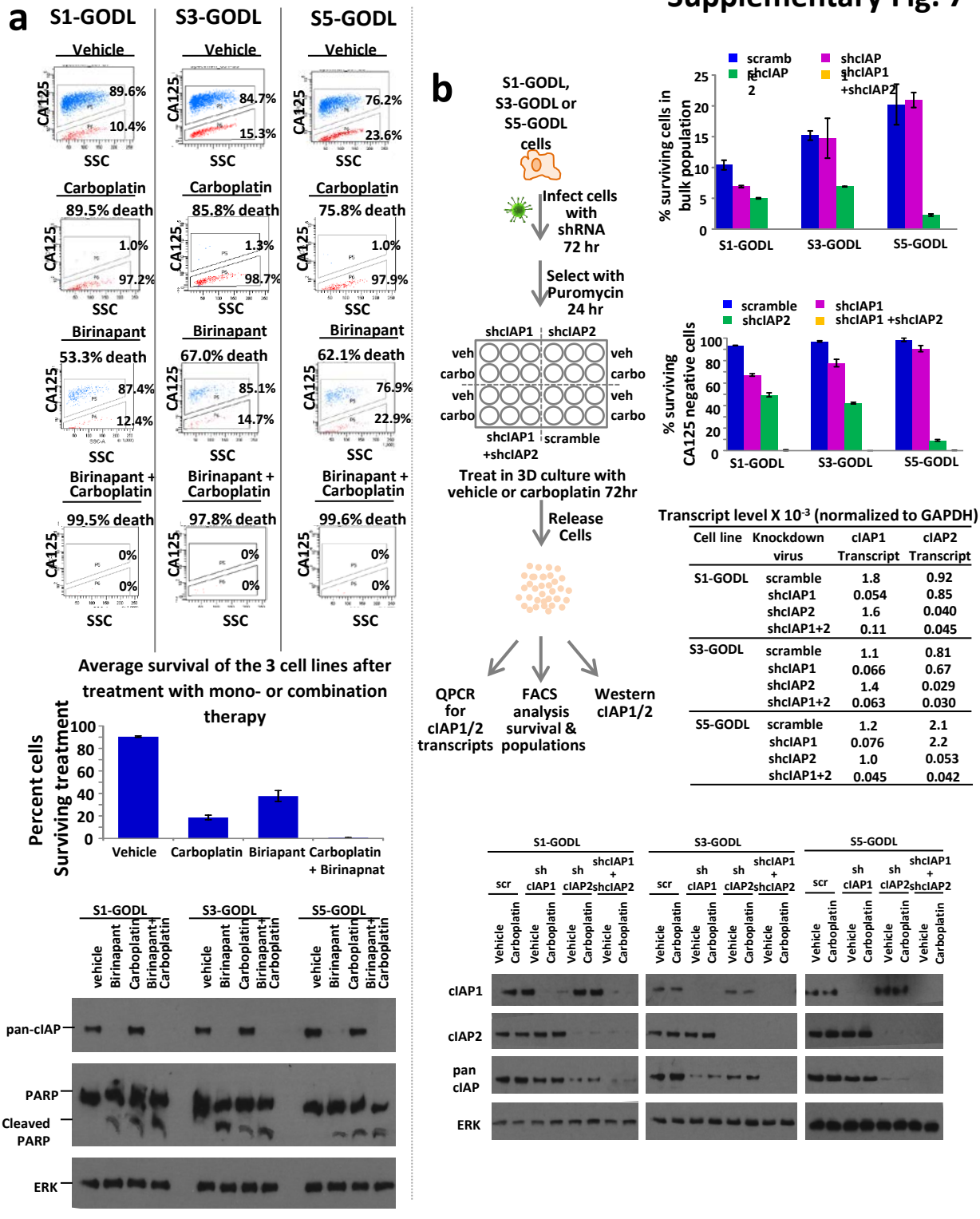
Supplementary Figure 5. CA125 negative tumor cells isolated from primary human high-grade serous cancers differentiate and form self-renewing tumor organoids in vitro. (a) HGSC single cells plated in a 3-dimensional matrix gave rise to organoids which upon release and dissociation into single cells had sustained self-renewal capacity. **(b)** Organoids resembled the parent tumor based on histology and marker expression profile (n=3). Scale bars equal 100 µm. **(c)** FACS analysis of organoids generated from primary HGSC CA125 subpopulations demonstrated presence of CA125 positive and negative progeny in organoids arising from the CA125 negative fraction. Conversely, the CA125 positive tumor fraction gave rise to predominantly CA125 positive cells (n=3). **(d)** Equal numbers of CA125 negative, CA125 positive and unfractionated tumor cells from primary human chemo-naive HGSCs were plated in the 3D assay. CA125 negative serous tumor cells demonstrated significantly higher organoid forming capacity compared to CA125 positive counterparts ($p<0.0001$, paired two-sided *t*-test). Hatched bars indicate ascites samples (n=2) while intact bars represent samples from solid tumors (n=8). Matched ascites and solid tumors were available for 2 specimens (red and green bars). Organoid growth capacity was normalized to activity in bulk tumor cells for each sample. Results are mean ± SD, n=3 replicates per sample.

Supplementary Fig. 6



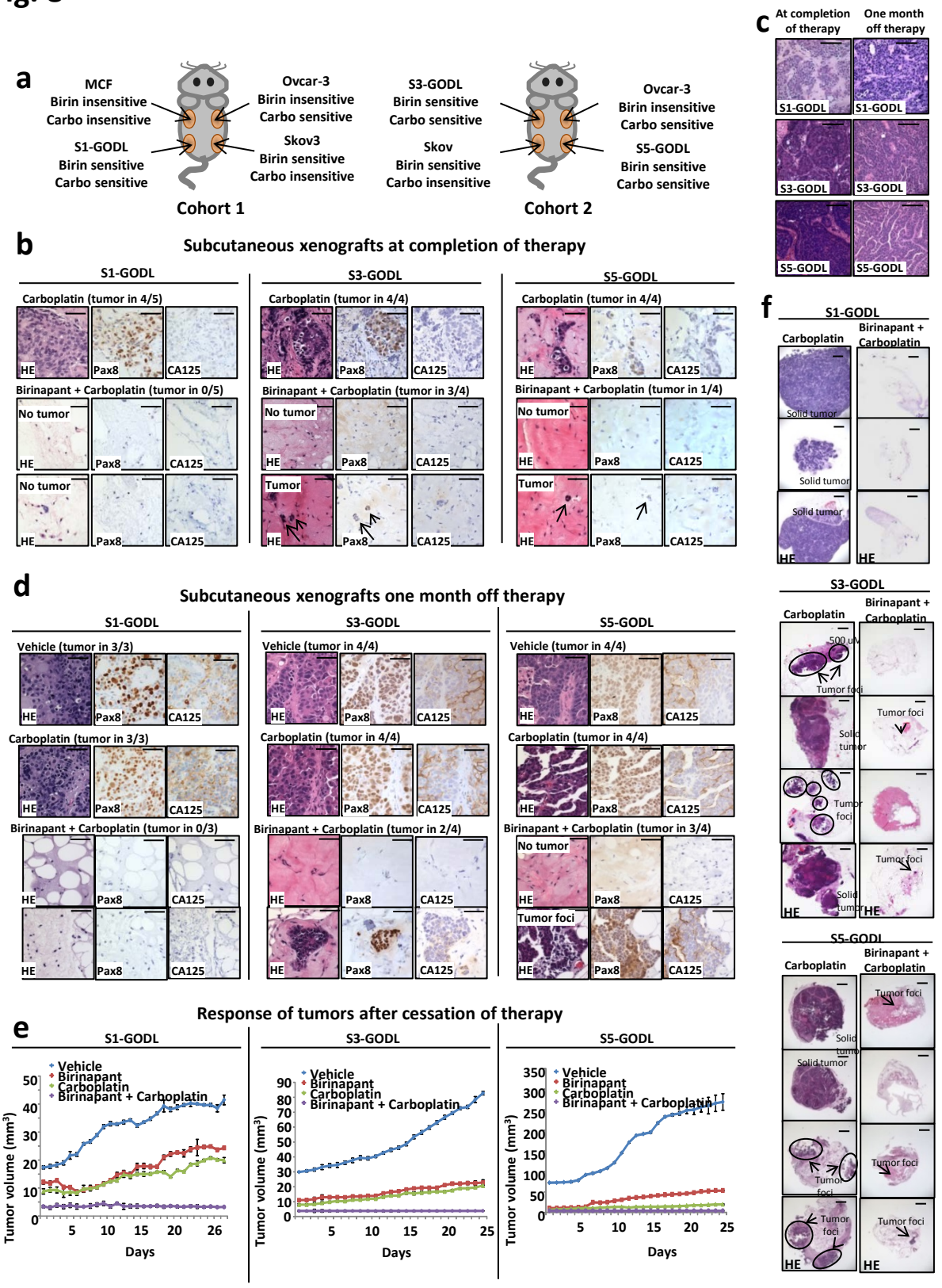
Supplementary Figure 6. Characterization of the low passage, patient derived HGSC cell lines S1-, S3- and S5-GODL. **(a)** Based on FACS analysis, subsets of low-passage patient derived HGSC cell lines (S1-, S3- and S5-GODL) are CA125 negative in comparable proportion to the parent tumor. **(b)** Only the CA125 negative subpopulation of these cell lines efficiently gave rise to tumors (n=3 replicates). Genomic copy number variation analysis revealed conserved amplifications and deletions between the cell lines and parent tumors, while clustering analysis confirms similarity between transcript expression patterns. Elevated expression of cIAP proteins was detected in the CA125 negative subpopulation of all lines by western blot. **(c)** Calculation of the correlation between cell lines and parent tumors indicated that each cell line closely resembled their parent HGSC (r^2= 0.841 for S1-GODL, 0.996 for S3 GODL and 0.908 for S5-GODL). R^2 calculated using R function of hclust().

Supplementary Fig. 7



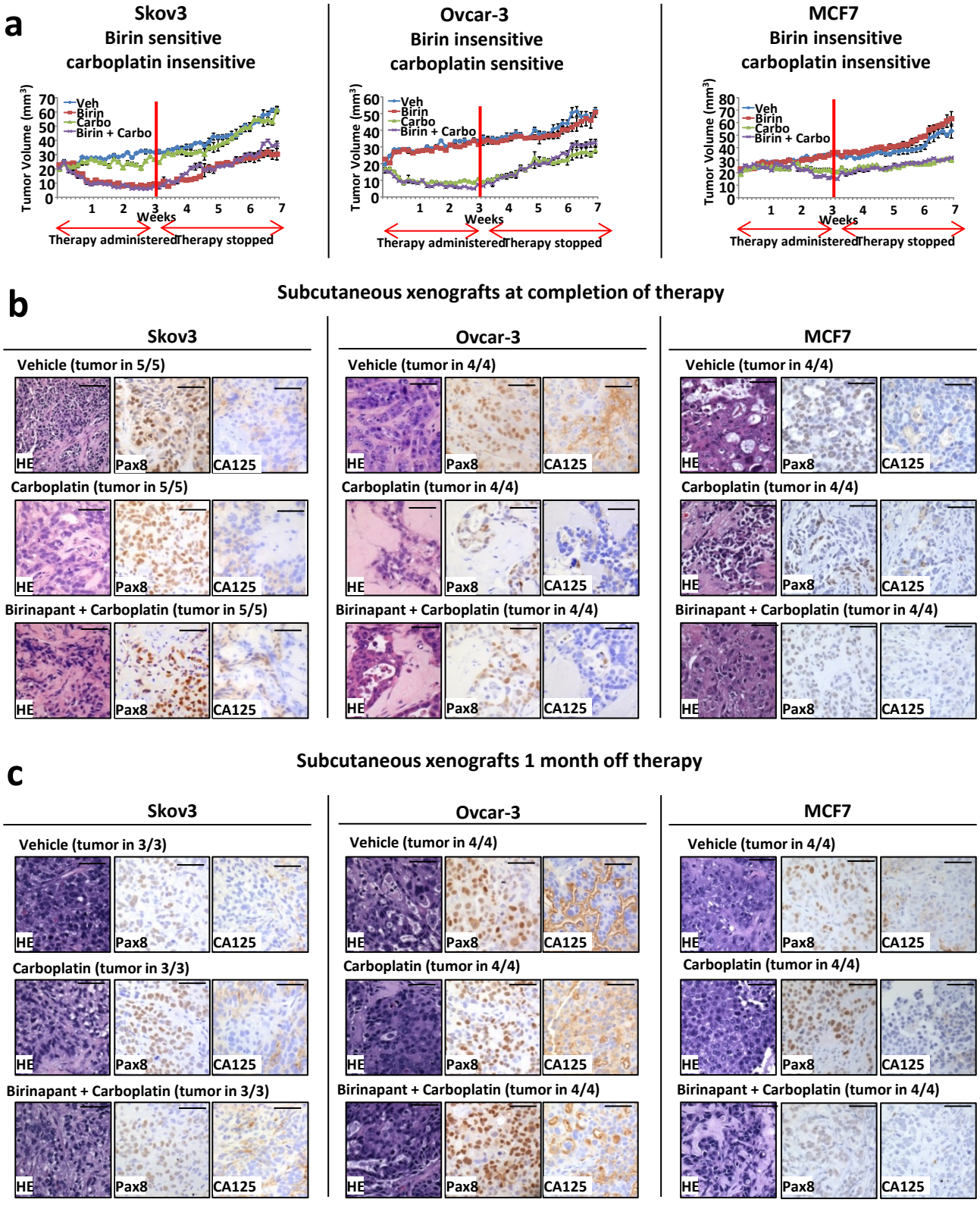
Supplementary Figure 7. HGSC cell death induced by Birinapant and carboplatin co-therapy is directly mediated by degradation of cIAP. (a) FACS analysis demonstrated that in S1-GODL, S3-GODL and S5-GODL cell lines, all cells including the CA125 negative population, could be eliminated with birinapant and carboplatin co-treatment in vitro. CA125 negative tumor cells were resistant to Carboplatin alone. Birinapant as a single agent caused only partial cell death. Averaging this data as a plot of cell survival for S1,3&5-GODL cell lines demonstrated that only combined birinapant and carboplatin co-treatment resulted in complete tumor cell kill (n=3 replicates per sample). Birinapant mediated degradation of cIAP and apoptotic induced PARP cleavage is confirmed by western blot in S1,3&5-GODL treated cells. **(b)** To achieve selective knockdown of cIAP proteins, S1-GODL, S3-GODL, or S5-GODL cells were infected with lentivirus expressing short hairpin RNAs targeting cIAP1, cIAP2 , cIAP1&cIAP2 or a scrambled control. After elimination of uninfected cells by puromycin treatment, cells were treated in triplicates with either vehicle or carboplatin. Cell survival (determined by propidium iodide and annexin V negativity) and CA125 expression was quantified by FACS analysis. Graphs of cell survival for the bulk cells and the CA125 negative subpopulation is shown for each cell line. Results are mean ± SD, n=3. Knockdown of cIAP1 and cIAP2 together sensitized the CA125 negative cells to carboplatin treatment, resulting in complete cell death. Knockdown of neither cIAP alone could cause complete elimination of CA125 negative cells in response to carboplatin. Specific knockdown of cIAP proteins was verified by QPCR for cIAP1 and cIAP2 transcripts and western blot. Collectively, these results show sensitization of the CA125 negative HGSC cells is likely a direct result of cIAP degradation.

Supplementary Fig. 8



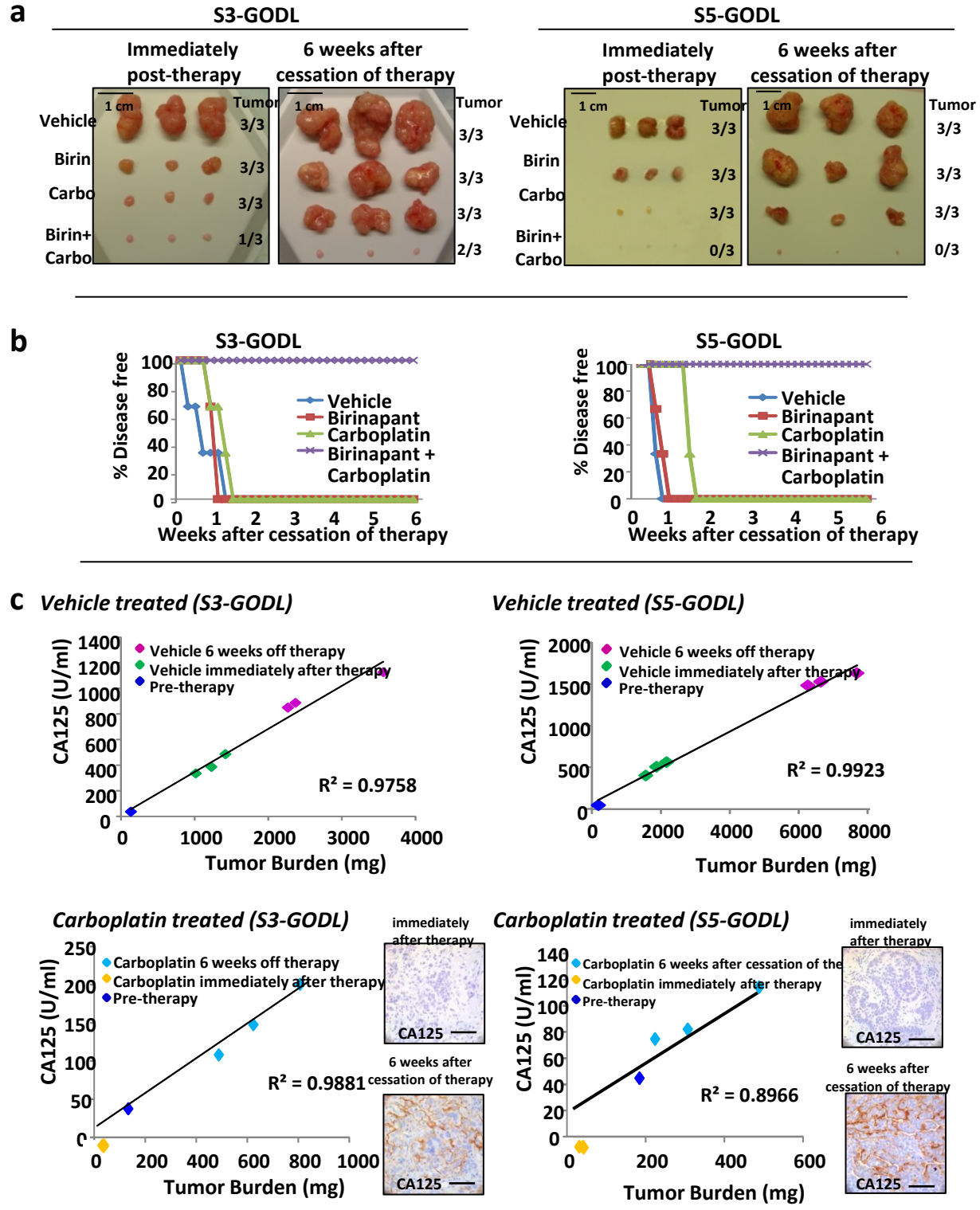
Supplementary Figure 8. Decreased tumor burden was observed in patient derived cell lines co-treated with birinapant and carboplatin. (a) Experimental schema for subcutaneous xenograft model. Mice in each cohort harbored 4 individual tumors to enable comparison of therapy effects between experimental and control cells. Cell lines used in each cohort and their drug sensitivities are indicated. **(b)** Based on histology and expression of Pax8, combination therapy eliminated tumor cells in majority of subcutaneous xenografts (9 of 13). Tumor foci in carboplatin treated xenografts were predominantly CA125 negative. Scale bars equal 50 µm. **(c)** Histologic examination of xenografts demonstrated the presence of tumor foci in all xenografts treated with birinapant monotherapy. Scale bars equal 50 µm. **(d)** While obvious tumor was detected in all carboplatin treated xenografts, disease was detected in only 5 of 11 subcutaneous xenografts in the co-therapy arm one month after the cessation of therpy, and these foci were small compared to carboplatin treated tumors. Resurgence of CA125 positive cells was observed in carboplatin treated grafts after therapy was stopped. Scale bars equal 50 µm **(e)** Serial measurement of tumor volume demonstrates that in contrast to other treatment groups, xenografts treated with birinapant and carboplatin co-therapy do not increase in size following the cessation of treatment. Results are mean ± SEM, n=4 per group. **(f)** Full xenograft images are shown to demonstrate that when disease foci were detected in birinapant and carboplatin treated grafts released from therapy; these foci were very small compared to tumors in the carboplatin treated arm. Scale bars equal 500 µm

Supplementary Fig. 9



Supplementary Figure 9. Response of control cell lines to in vivo therapy correlated with their known drug sensitivities (a) Serial measurement of tumor volumes demonstrated that Skov3 cells responded only to birinapant therapy, Ovcar-3 cells responded to carboplatin, and MCF7 cells exhibited minimal response to either drug. Results are mean ± SEM, n=4 **(b)** Based on histology and immunohistochemistry, tumor was detected in all subcutaneous xenografts at the completion of therapy**.** Scale bars equal 50 µm. **(c)** Tumor was also detected in all control grafts one month after cessation of therapy. Scale bars equal 50 µm.

Supplementary Fig. 10



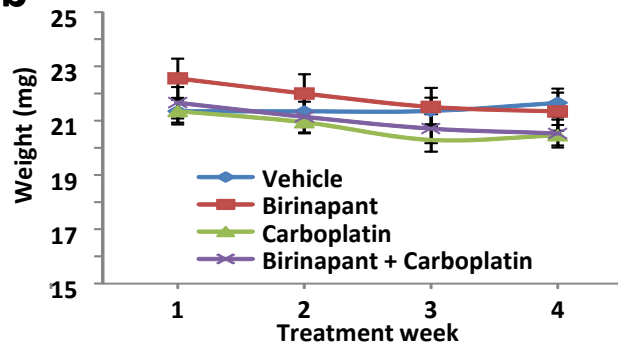
Supplementary Figure 10. Serum CA125 correlated with tumor burden only when majority of tumor cells expressed CA125 on their cell surface. (a) Gross tumors from mice bearing only S3-GODL or S5-GODL xenografts and treated with vehicle, carboplatin, birinapant or the combination therapy are shown. Residual xenografts in the co-therapy arm were significantly smaller compared to monotherapy treated tumors immediately after treatment and 6 weeks following cessation of treatment ($p<0.01$ by one-way ANOVA, n=3 per group). Scale bars equal 1 cm **(b)** In both cohorts, mice treated with birinapant and carboplatin co-therapy showed no progression of disease after cessation of therapy vastly different from results seen in mono-therapy arms (n=3 per group). **(c)** Human serum CA125 levels detected in vehicle treated mice (n=3 per group) correlated with tumor burden. In carboplatin treated mice (n=3 per group), human CA125 was detected only after mice had been released from therapy and their tumors expressed CA125. This biomarker was undetectable immediately after therapy despite detection of CA125 negative tumor cells in the carboplatin treated xenografts. Scale bars equal 50 µm. R^2 calculated by linear regression.

Supplementary Fig. 11

a **Blood chemistry and CBC values for mice treated with in vivo therapies**

Test	Vehicle (n=9)	Birinapant (n=9)	Carboplatin (n=9)	Birinapant + Carboplatin (n=9)	p
ALP (U/L)	82.5 ± 2.4	69.5 ± 8.9	61.9 ± 15	79.8 ± 6.0	0.29
ALT (U/L)	53 ± 15	62.9 ± 14.7	73.3 ± 10.9	108.7 ± 28.2	0.31
AST (U/L)	121 ± 27	143 ± 29	190 ± 27	294 ± 85	0.32
DBILI (mg/dL)	0.4 ± 0.1	0.3 ± 0	0.7 ± 0.2	0.6 ± 0.1	0.66
BUN (mg/dL)	29 ± 2	27 ± 4	26 ± 2	28 ± 3	0.77
CREAT (mg/dL)	0.3 ± 0	0.2 ± 0	0.2 ± 0	0.2 ± 0	0.86
LDH (U/L)	574 ± 66	808 ± 60	1198 ± 323	988 ± 213	0.61
ALB (g/dL)	3.6 ± 0.1	3.1 ± 0.2	3.1 ± 0.1	3.4 ± 3.6	0.06
TP (g/DL)	5.9 ± 0.1	5.2 ± 0.2	5.4 ± 0.1	5.0 ± 0.6	0.57
GLU (mg/dL)	243 ± 18	180 ± 21	205 ± 9	225 ± 15	0.34
Na (mmol/L)	153 ± 5	150 ± 4	146 ± 4	158 ± 1	0.06
K (mmol/L)	23 ± 12	10 ± 0.2	11 ± 0.4	11 ± 0.6	0.93
Cl (mmol/L)	115 ± 16	132 ± 5	113 ± 48	116 ± 64	0.41
RBC (M/µL)	9.1 ± 0.3	9.1 ± 0.1	8.2 ± 0.4	7.9 ± 0.2	0.62
HB (g/dL)	12.8 ± 0.4	12.3 ± 0.2	11.5 ± 0.6	11.0 ± 0.3	0.47
HCT (%)	46.6 ± 1.4	45.1 ± 0.8	43.8 ± 2.5	40.5 ± 1.3	0.25
PLT (K/µL)	1234 ± 46	1192 ± 42	639 ± 103	521 ± 41	0.30
NE (K/µL)	2.2 ± 0.3	4.6 ± 1.1	1.2 ± 0.3	3.3 ± 0.6	0.006*
Ly (K/µL)	0.5 ± 0.1	1.6 ± 0.5	0.8 ± 0.3	1.4 ± 0.2	0.10
MO (K/µL)	0.10 ± 0.01	0.26 ± 0.05	0.21 ± 0.03	0.48 ± 0.13	0.07
EO (K/µL)	0.05 ± 0.01	0.22 ± 0.05	0.12 ± 0.03	0.35 ± 0.11	0.07
BA (K/µL)	0.02 ± 0.01	0.05 ± 0.01	0.05 ± 0.01	0.10 ± 0.03	0.12

b

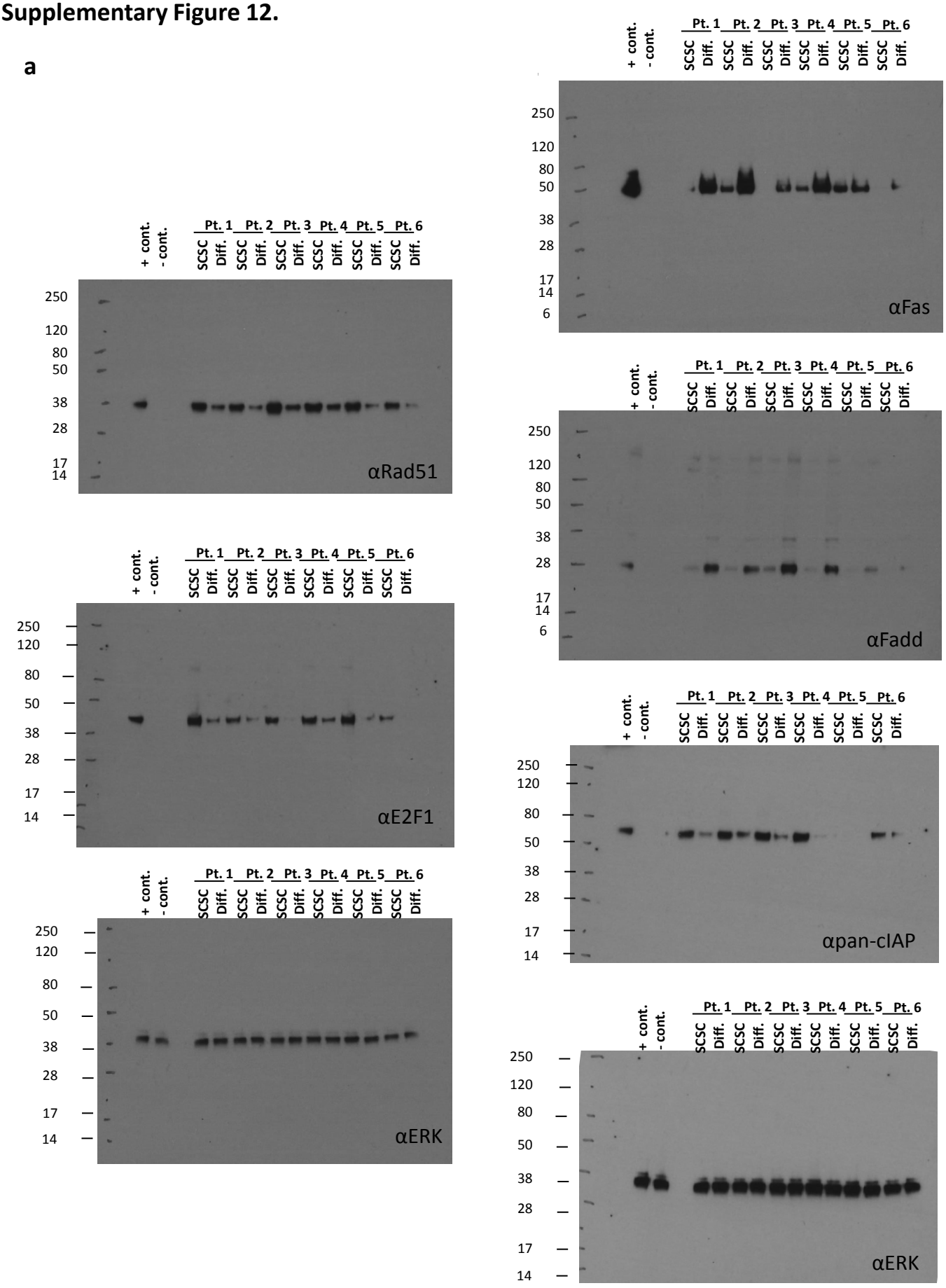


	% Weight loss At completion of therapy	% Weight re-gained 1 month after therapy
Vehicle	-1.42 ± 0.67	4.15 ± 0.85
Birinapant	5.43 ± 0.61	2.82 ± 0.51
Carboplatin	4.07 ± 0.79	2.27 ± 0.23
Birinapant + Carboplatin	5.27 ± 0.65	4.14 ± 1.21

Supplementary Figure 11. Birinapant and carboplatin co-therapy is safe and well-tolerated. (a) Blood chemistry and complete blood count analysis demonstrates that addition of birinapant to carboplatin therapy did not increase carboplatin induced neutropenia or thrombocytopenia. No additional effects on liver or renal function were observed when birinapant was added to carboplatin therapy Results are mean ± SEM (n=9, p value calculated by unpaired, two-sided *t*-test). **(b)** Weight loss with combined carboplatin and birinapant co-therapy was less than 10% of original body weight, was statistically similar to weight loss with carboplatin treatment alone, and was reversed with cessation of treatment. Results are mean ± SEM, n= 6 per group).

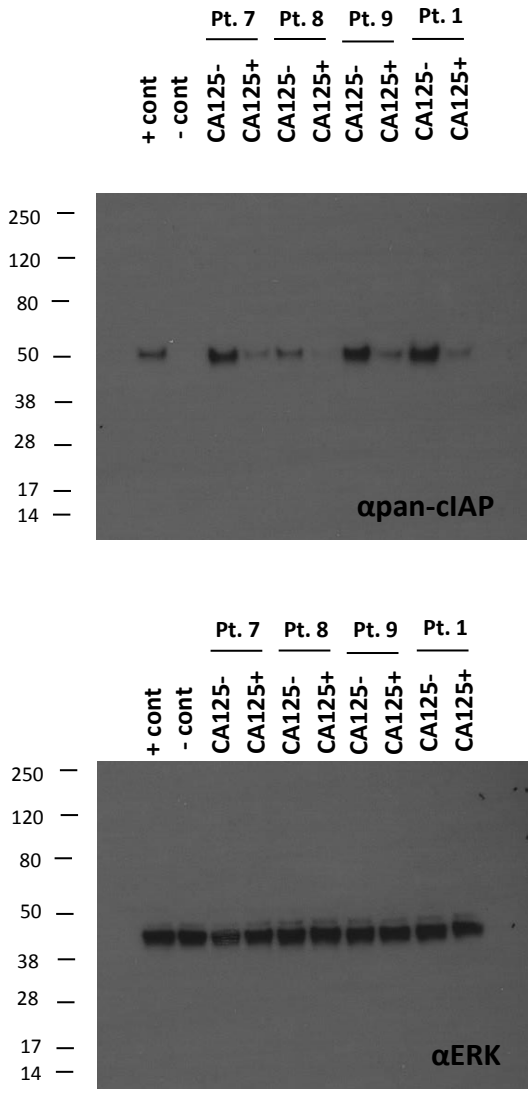
Supplementary Figure 12.

a



Supplementary Figure 12. (a) Full length images of western blots for Figure 3

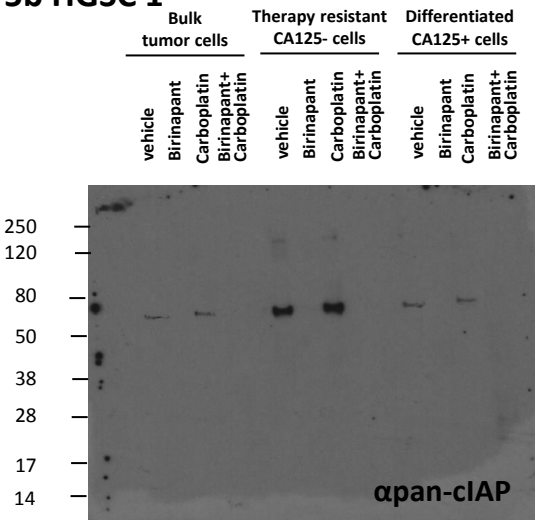
Supplementary Figure 12 continued.

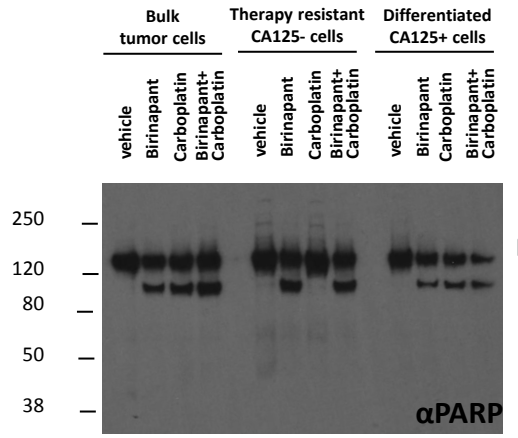


Supplementary Figure 12. (b) Full length images of western blots for Figure 4b

Supplementary Figure 12 continued.

5b HGSC 1





PARP
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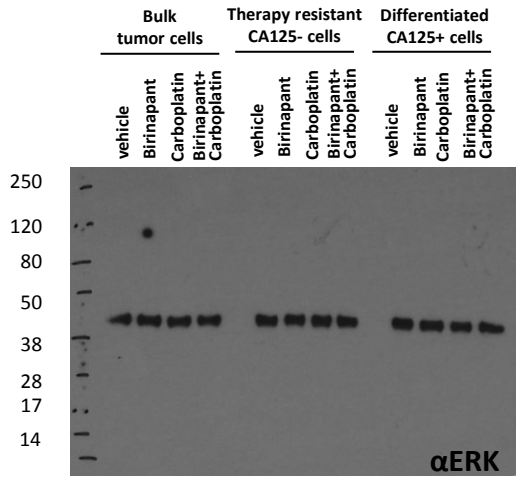
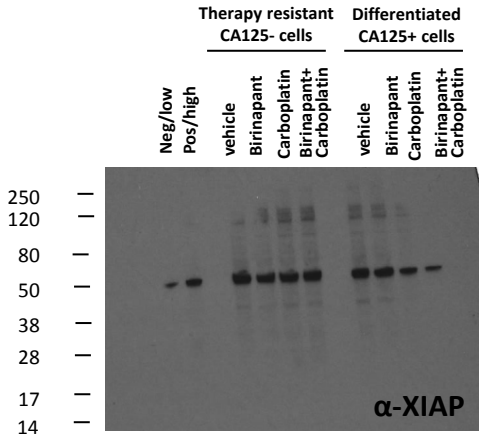
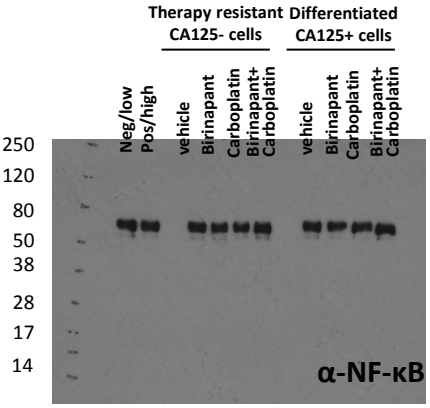
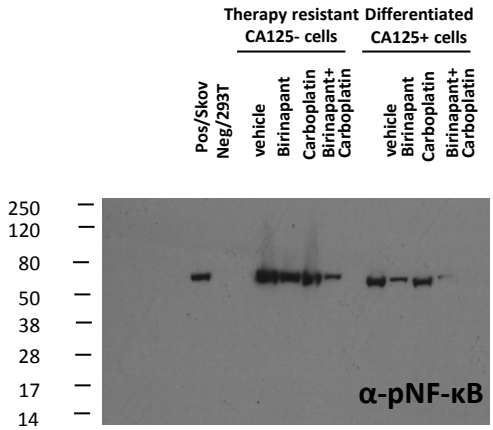
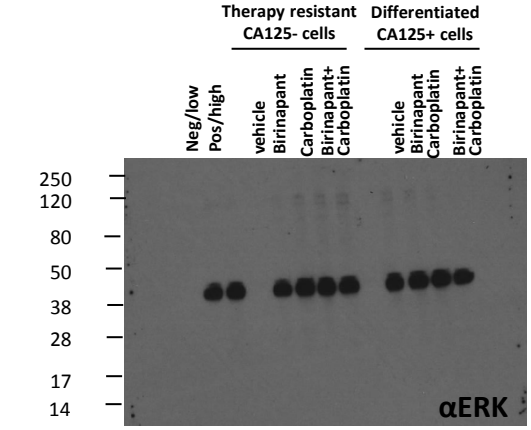






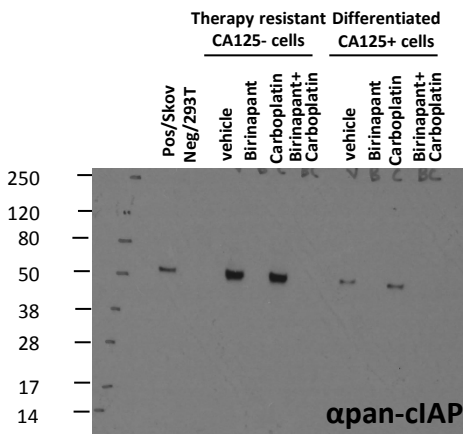


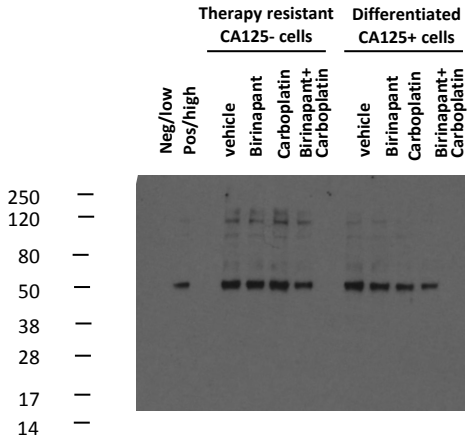


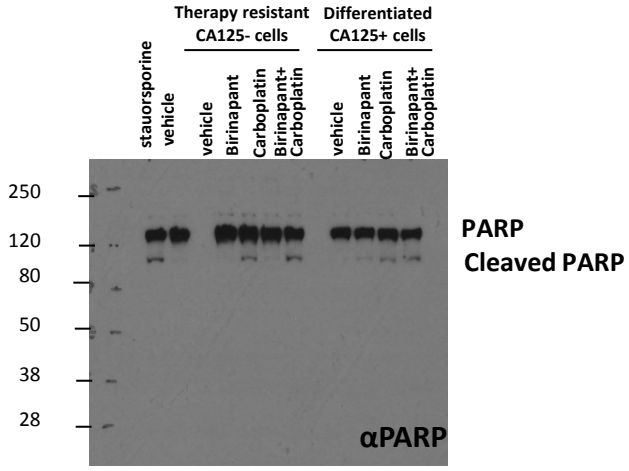
Supplementary Figure 12. Full length images of western blots for Figure 5b

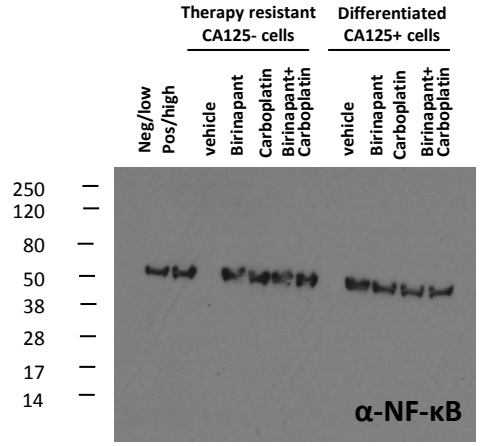
Supplementary Figure 12 continued.

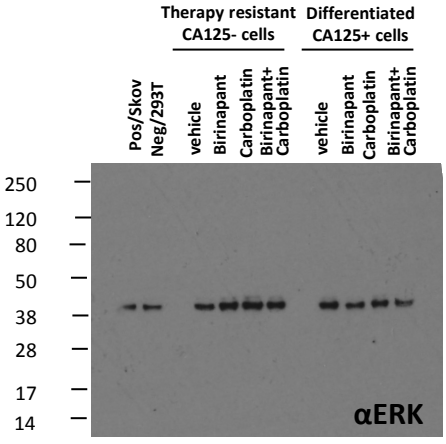
5b HGSC2

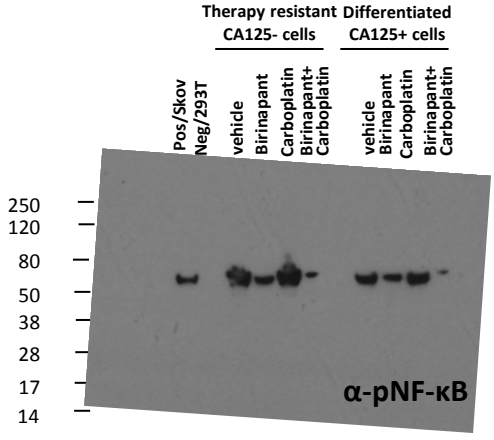








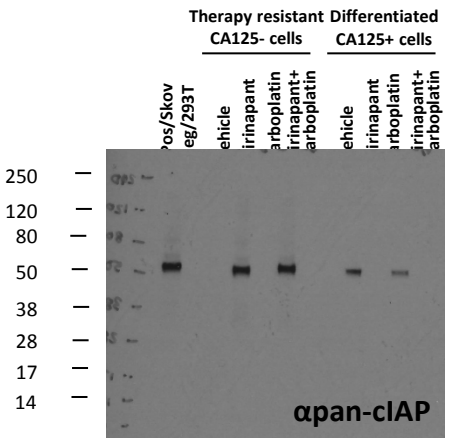


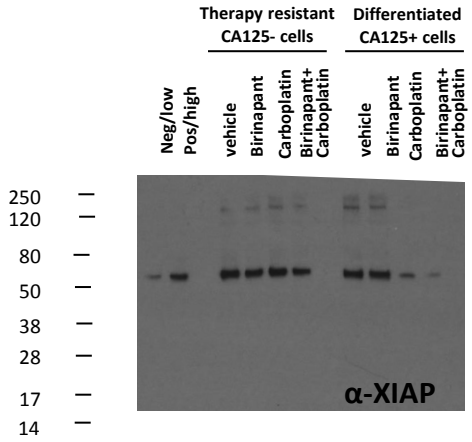


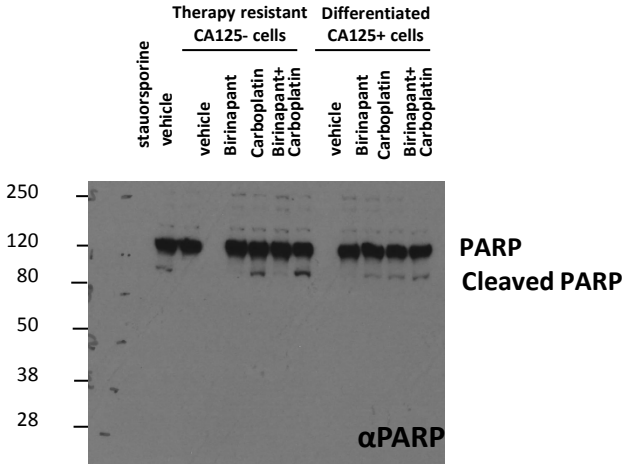
Supplementary Figure 12. Full length images of western blots for Figure 5b

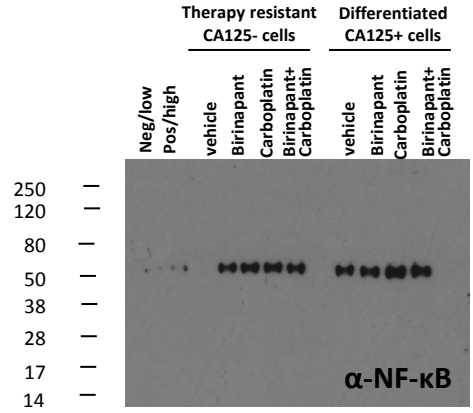
Supplementary Figure 12 continued.

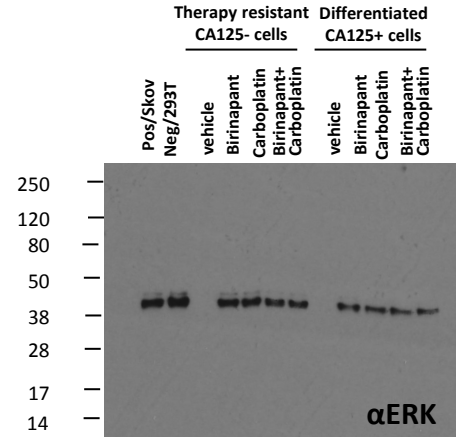
5b HGSC3

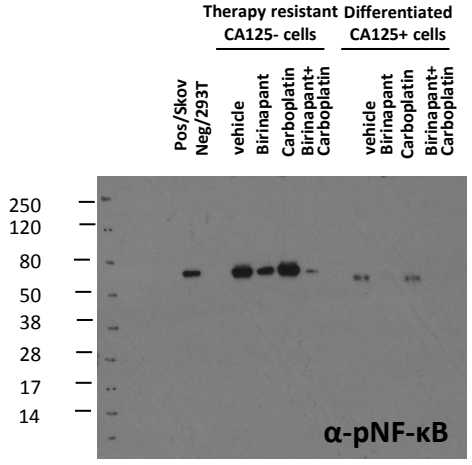








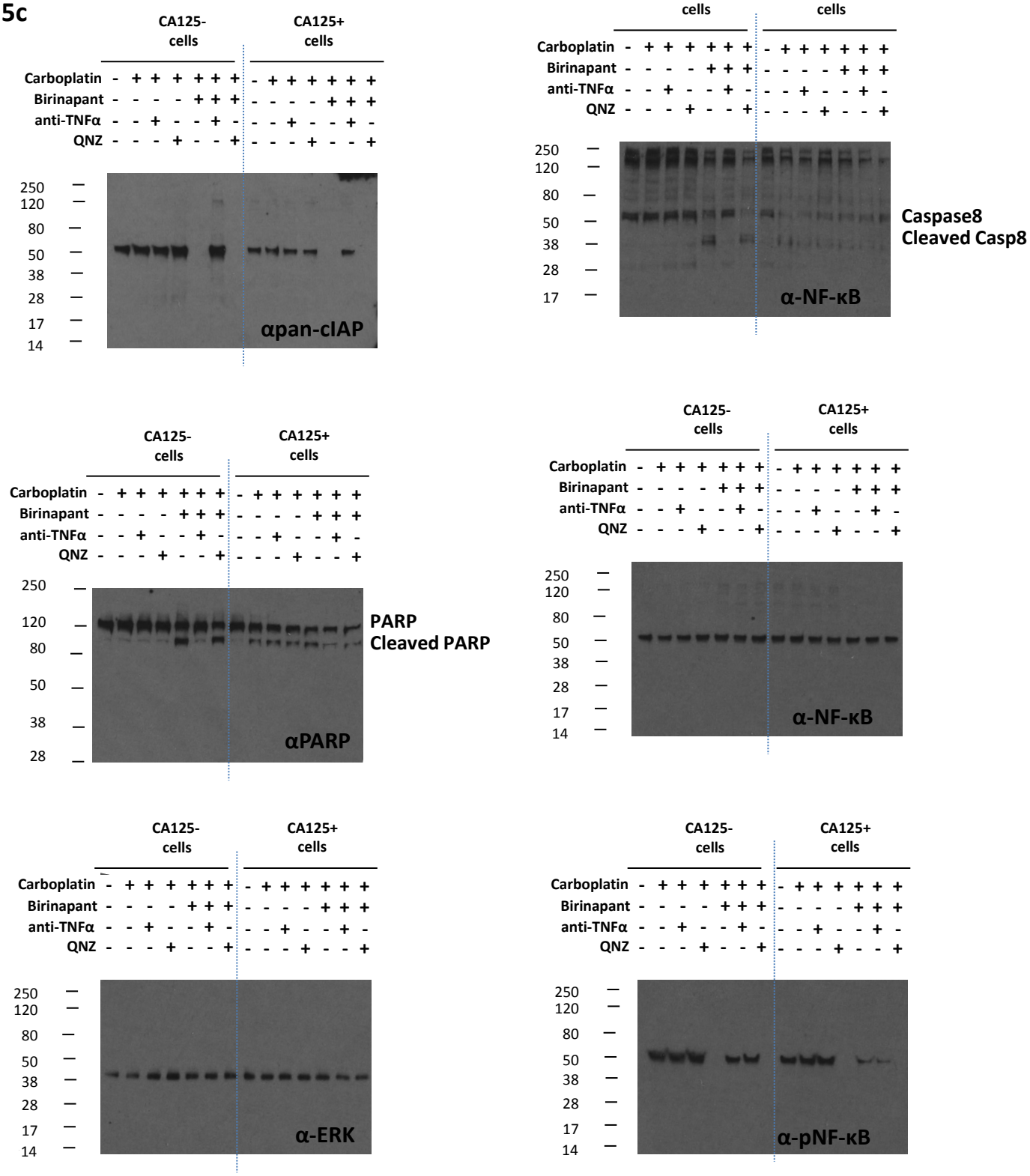




Supplementary Figure 12. Full length images of western blots for Figure 5b

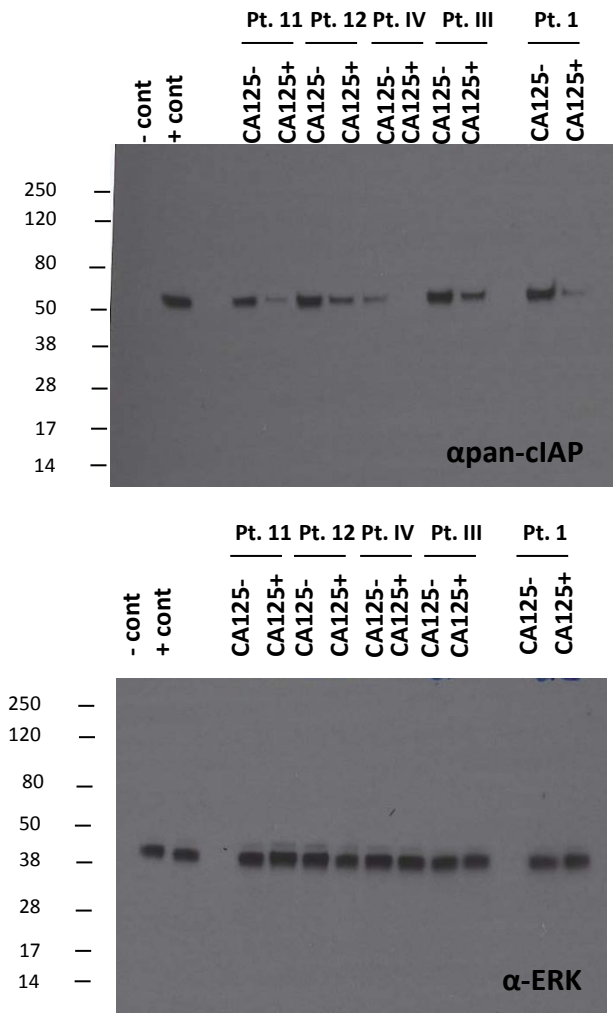
Supplementary Figure 12 continued.

5c



Supplementary Figure 12. Full length images of western blots for Figure 5c

Supplementary Figure 12 continued.



Supplementary Figure 12. Full length images of western blots for Figure 8b

Supplementary Table 1. Specimen characteristics

Fresh or Frozen	Tumor format (solid or ascites)	Tumor Grade	Cytoreduction on initial surgery	BRCA status
Chemo-naive specimens				
Frozen	Ascites	high grade	optimal	Wild-type
Frozen	Ascites	high grade	sub-optimal	Wild-type
Frozen	Solid	high grade	optimal	BRCA2 mutated
Frozen	Solid	high grade	sub-optimal	Wild-type
Frozen	Solid	high grade	optimal	Wild-type
Frozen	Solid	high grade	sub-optimal	BRCA2 mutated
Frozen	Solid	high grade	optimal	Wild-type
Fresh	Solid	high grade	optimal	Wild-type
Fresh	Solid	high grade	optimal	Wild-type
Fresh	Solid	high grade	sub-optimal	Wild-type
Fresh	Ascites- matched solid	high grade	optimal	Wild-type
Fresh	Ascites- matched solid	high grade	sub-optimal	Wild-type
Frozen	Solid	high grade	optimal	BRCA1 mutated
Frozen	Solid	high grade	optimal	Wild-type
Frozen	Solid	high grade	optimal	Wild-type
Frozen	Solid	high grade	optimal	Wild-type
Frozen	Solid	high grade	sub-optimal	Wild-type
Frozen	Solid	high grade	Sub-optimal	BRCA1 mutated
Chemotherapy treated specimens				
Fresh	Solid	high grade	N/A	Wild-type
Fresh	Solid	high grade	N/A	BRCA2 mutated
Fresh	Solid	high grade	N/A	Wild-type
Fresh	Solid	high grade	N/A	Wild-type
Fresh	Solid	high grade	N/A	Wild-type
Fresh	Ascites	high grade	N/A	Wild-type
Fresh	Solid	high grade	N/A	Wild-type

Supplementary Table 2. Results of limiting dilution analysis

Specimen	Tumor Population	Tumor Initiating Frequency	95% CI
Pt 1	Bulk	1 in 170,000	30,000-1,000,000
	CA125 - cells	1 in 2,300	570-9,600
	CA125 + cells	<1 in 740,000	
Pt 2	Bulk	1 in 24,000	5,400-110,000
	CA125 - cells	1 in 220	49-960
	CA125 + cells	<1 in 770,000	76,000-1,100,000
Pt 3	Bulk	1 in 23,000	5,700-96,000
	CA125 - cells	1 in 670	190-2,400
	CA125 + cells	1 in 110,000	27,000-430,000
Pt 4	Bulk	1 in 11,000	2,700-43,000
	CA125 - cells	1 in 91	21 - 390
	CA125 + cells	1 in 840,000	180,000-3,9000,000
Pt 5	Bulk	1 in 256,000	48,000–1,350,000
	CA125 - cells	1 in 23,000	57,000–960,000
	CA125 + cells	<1 in 780,000	
Pt 6	Bulk	<1 in 410,000	260,000-12,000,000
	CA125 - cells	1 in 51,000	12,000-220,000
	CA125 + cells	<1 in 740,000 †	
Pt 7	Bulk	1 in 42,000 †	12,000-150,000
	CA125 - cells	1 in 1,100 †	270-4300
	CA125 + cells	<1 in 670,000	

† Indicates the median value for the group (i.e. Bulk, CA125 - or CA125 +)

Supplementary Table 3. TP53 mutations detected by RNA sequencing

Specimen	TP53 mutation detected	
	CA125- fraction	CA125+ fraction
Pt A	silenced	silenced
Pt B	C238Y	C238Y
Pt C	silenced	silenced
Pt D	silenced	silenced
Pt E	V272M	V272M
Pt F	R273H	R273H
Pt G	R248W	R248W
Pt H	H179N	H179N
Pt I	H179R	H179R
Pt J	S240G	S240G

Supplementary Table 4. Fold change in drug efflux transcripts

Gene	Fold up or Down in CA125 - compared to CA125 + population	p adj
ATP7A	-1.04	0.66
ATP7B	1.03	0.84
SLC31A1	1.12	0.53
GCSH	-1.14	0.47
MGST3	1.07	0.48
ABCB11	-1.54	0.65
ABCB1	-1.92	0.08
ABCC1	-1.09	0.19
ABCC2	1.13	0.68
ABCC3	-1.51	0.04
ABCC4	1.10	0.28
ABCC5	1.04	0.78
ABCC6	-1.08	0.59
ABCG2	-1.28	0.12
VDAC1	-1.06	0.66
MTF1	1.10	0.39
MT1H	1.09	0.79

Supplementary Table 5. Fold change in autophagy transcripts

Gene	Fold up or Down in CA125 - compared to CA125 + population	p adj
IFNG	-1.61	0.29
IFNA	1.06	0.87
ULK1	1.01	0.95
ATG13	1.01	0.91
BECN1	1.01	0.85
ATG12	1.02	0.80
ATG14	-1.08	0.55
ATG7	1.07	0.40
ATG10	-1.02	0.88
ATG4	-1.07	0.47

Supplementary Table 6. Frequency or tumor foci in xenografts

Experiment	Cell type	Pre-therapy tumor	Treatment	Tumor growth at completion of therapy	Tumor growth off therapy
Subcutaneous xenografts with low-passage patient derived cells	S1 GODL	yes	Vehicle	5 of 5	3 of 3
			Birinapant	5 of 5	3 of 3
			Carboplatin	4 of 5	3 of 3
			Birin+Carbo	0 of 5	0 of 3
	S3-GODL	yes	Vehicle	4 of 4	4 of 4
			Birinapant	3 of 4	4 of 4
			Carboplatin	4 of 4	4 of 4
			Birin+Carbo	3 of 4	2 of 4
	S5-GODL	yes	Vehicle	4 of 4	4 of 4
			Birinapant	4 of 4	4 of 4
			Carboplatin	4 of 4	4 of 4
			Birin+Carbo	1 of 4	3 of 4
	S3-GODL Individual xenografst	yes	Vehicle	3 of 3	3 of 3
			Birinapant	3 of 3	3 of 3
			Carboplatin	3 of 3	3 of 3
			Birin+Carbo	1 of 3	2 of 3
	S5-GODL individual xenografts	yes	Vehicle	3 of 3	3 of 3
			Birinapant	3 of 3	3 of 3
			Carboplatin	3 of 3	3 of 3
			Birin+Carbo	0 of 3	0 of 3
S1GODL Intraperitoneal tumors	S1 GODL Pelvic wash pellet	yes	Vehicle	4 of 4	4 of 4
			Birinapant	4 of 4	4 of 4
			Carboplatin	1 of 4	4 of 4
			Birin+Carbo	0 of 4	3 of 4
	S1-GODL Implants on organs	yes	Vehicle	4 of 4	4 of 4
			Birinapant	4 of 4	4 of 4
			Carboplatin	4 of 4	4 of 4
			Birin+Carbo	1 of 4	2 of 4
Primary patient derived HGSC xenografts	Carboplatin sensitive Birinapant sensitive	yes	Vehicle	3 of 3	3 of 3
			Birinapant	3 of 3	3 of 3
			Carboplatin	3 of 3	3 of 3
			Birin+Carbo	3 of 5	4 of 6
	Carboplatin sensitive Birinapant insensitive	yes	Vehicle	3 of 3	3 of 3
			Birinapant	3 of 3	3 of 3
			Carboplatin	3 of 3	3 of 3
			Birin+Carbo	5 of 5	5 of 5
	Carboplatin resistant Birinapant sensitive	yes	Vehicle	2 of 2	2 of 2
			Birinapant	2 of 2	2 of 2
			Carboplatin	3 of 3	2 of 2
			Birin+Carbo	1 of 3	2 of 3
	Carboplatin resistant Birinapant insensitive	yes	Vehicle	3 of 3	3 of 3
			Birinapant	3 of 3	3 of 3
			Carboplatin	3 of 3	3 of 3
			Birin+Carbo	5 of 5	6 of 6

Supplementary Table 7. Secreted proteins transcripts highly expressed in CA125- cells

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000166710	B2M	beta-2-microglobulin	235.01
ENSG00000120885	CLU	clusterin	155.95
ENSG00000182718	ANXA2	annexin A2	118.84
ENSG00000169429	IL8	interleukin 8	93.96
ENSG00000124107	SLPI	secretory leukocyte peptidase inhibitor	73.94
ENSG00000163739	CXCL1	chemokine (C-X-C motif) ligand 1	41.01
ENSG00000058085	LAMC2	laminin, gamma 2	37.21
ENSG00000101443	WFDC2	WAP four-disulfide core domain 2	32.53
ENSG00000108679	LGALS3BP	lectin, galactoside-binding, soluble, 3 binding protein	32.42
ENSG00000113140	SPARC	secreted protein, acidic, cysteine-rich	30.01
ENSG00000149131	SERPING1	serpin peptidase inhibitor, clade G, member 1	29.71
ENSG00000118785	SPP1	secreted phosphoprotein 1	25.52
ENSG00000185499	MUC1	mucin 1, cell surface associated	22.68
ENSG00000102265	TIMP1	TIMP metallopeptidase inhibitor 1	22.59
ENSG00000119655	NPC2	Niemann-Pick disease, type C2	21.46
ENSG00000137673	MMP7	matrix metallopeptidase 7 (matrilysin, uterine)	19.95
ENSG00000169245	CXCL10	chemokine (C-X-C motif) ligand 10	18.62
ENSG00000115414	FN1	fibronectin 1	18.16
ENSG00000125730	C3	complement component 3	16.59
ENSG00000167244	IGF2	insulin-like growth factor 2 (somatomedin A)	15.74
ENSG00000167755	KLK6	kallikrein-related peptidase 6	14.31
ENSG00000257017	HP	haptoglobin	13.15
ENSG00000115009	CCL20	chemokine (C-C motif) ligand 20	12.77
ENSG00000175899	A2M	alpha-2-macroglobulin	12.36
ENSG00000133048	CHI3L1	chitinase 3-like 1 (cartilage glycoprotein-39)	12.34
ENSG00000169035	KLK7	kallikrein-related peptidase 7	12.31
ENSG00000205403	CFI	complement factor I	12.15
ENSG00000100097	LGALS1	lectin, galactoside-binding, soluble, 1	11.84
ENSG00000008517	IL32	interleukin 32	11.55
ENSG00000136689	IL1RN	interleukin 1 receptor antagonist	10.77
ENSG00000164692	COL1A2	collagen, type I, alpha 2	10.43
ENSG00000053747	LAMA3	laminin, alpha 3	10.31
ENSG00000110492	MDK	midkine (neurite growth-promoting factor 2)	10.24
ENSG00000030582	GRN	granulin	9.98
ENSG00000078401	EDN1	endothelin 1	9.77
ENSG00000047457	CP	ceruloplasmin (ferroxidase)	9.44
ENSG00000148346	LCN2	lipocalin 2	9.41
ENSG00000104368	PLAT	plasminogen activator, tissue	9.40
ENSG00000129538	RNASE1	ribonuclease, RNase A family, 1 (pancreatic)	8.70
ENSG00000211445	GPX3	glutathione peroxidase 3 (plasma)	8.53
ENSG00000108821	COL1A1	collagen, type I, alpha 1	8.08
ENSG00000081041	CXCL2	chemokine (C-X-C motif) ligand 2	7.73

Supplementary Table 7 continued

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000021355	SERPINB1	serpin peptidase inhibitor, clade B, member 1	7.63
ENSG00000129277	CCL4	chemokine (C-C motif) ligand 4	7.52
ENSG00000122861	PLAU	plasminogen activator, urokinase	6.68
ENSG00000115461	IGFBP5	insulin-like growth factor binding protein 5	6.60
ENSG00000168542	COL3A1	collagen, type III, alpha 1	6.52
ENSG00000163734	CXCL3	chemokine (C-X-C motif) ligand 3	6.31
ENSG00000152268	SPON1	spondin 1, extracellular matrix protein	6.17
ENSG00000196878	LAMB3	laminin, beta 3	6.15
ENSG00000197249	SERPINA1	serpin peptidase inhibitor, clade A, member 1	6.13
ENSG00000232810	TNF	tumor necrosis factor]	5.83
ENSG00000052344	PRSS8	protease, serine, 8	5.57
ENSG00000100342	APOL1	apolipoprotein L, 1	5.40
ENSG00000135862	LAMC1	laminin, gamma 1 (formerly LAMB2)	5.28
ENSG00000106366	SERPINE1	serpin peptidase inhibitor, clade E, member 1	5.21
ENSG00000117122	MFAP2	microfibrillar-associated protein 2	4.89
ENSG00000166670	MMP10	matrix metallopeptidase 10 (stromelysin 2)	4.84
ENSG00000163430	FSTL1	follistatin-like 1	4.80
ENSG00000100979	PLTP	phospholipid transfer protein	4.64
ENSG00000161249	DMKN	dermokine	4.63
ENSG00000243649	CFB	complement factor B	4.62
ENSG00000169218	RSPO1	R-spondin 1	4.58
ENSG00000146674	IGFBP3	insulin-like growth factor binding protein 3	4.46
ENSG00000011465	DCN	decorin	4.42
ENSG00000176945	MUC20	mucin 20, cell surface associated	4.33
ENSG00000125538	IL1B	interleukin 1, beta	4.16
ENSG00000187608	ISG15	ISG15 ubiquitin-like modifier	4.16
ENSG00000120509	PDZD11	PDZ domain containing 11	4.00
ENSG00000167754	KLK5	kallikrein-related peptidase 5	3.98
ENSG00000132581	SDF2	stromal cell-derived factor 2	3.88
ENSG00000142871	CYR61	cysteine-rich, angiogenic inducer, 61	3.87
ENSG00000139329	LUM	lumican	3.81
ENSG00000006075	CCL3	chemokine (C-C motif) ligand 3	3.79
ENSG00000129451	KLK10	kallikrein-related peptidase 10	3.78
ENSG00000124570	SERPINB6	serpin peptidase inhibitor, clade B , member 6	3.74
ENSG00000149257	SERPINH1	serpin peptidase inhibitor, clade H, member 1	3.58
ENSG00000168081	PNOC	prepronociceptin	3.53
ENSG00000129455	KLK8	kallikrein-related peptidase 8	3.53
ENSG00000000971	CFH	complement factor H	3.35
ENSG00000204983	PRSS1	protease, serine, 1 (trypsin 1)	3.32
ENSG00000177830	CHID1	chitinase domain containing 1	3.20
ENSG00000118523	CTGF	connective tissue growth factor	3.13
ENSG00000108691	CCL2	chemokine (C-C motif) ligand 2	3.12

Supplementary Table 8. Cell surface transcripts highly expressed in CA125- cells

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000139644	TMBIM6	transmembrane BAX inhibitor motif containing 6	125.851
ENSG00000019582	CD74	CD74 molecule, MHC, class II invariant chain	112.4152
ENSG00000165949	IFI27	interferon, alpha-inducible protein 27	74.57614
ENSG00000013588	GPRC5A	G protein-coupled receptor, familyC, group5, memberA	71.80903
ENSG00000169908	TM4SF1	transmembrane 4 L six family member 1	68.68447
ENSG00000010278	CD9	CD9 molecule	60.34071
ENSG00000142089	IFITM3	interferon induced transmembrane protein 3	60.13627
ENSG00000135404	CD63	CD63 molecule	46.66773
ENSG00000124145	SDC4	syndecan 4	42.39918
ENSG00000185885	IFITM1	interferon induced transmembrane protein 1	40.32192
ENSG00000011422	PLAUR	plasminogen activator, urokinase receptor	36.51154
ENSG00000118705	RPN2	ribophorin II	35.69502
ENSG00000110195	FOLR1	folate receptor 1 (adult)	35.67795
ENSG00000204287	HLA-DRA	major histocompatibility complex, class II, DR alpha	34.13535
ENSG00000068697	LAPTM4A	lysosomal protein transmembrane 4 alpha	33.55634
ENSG00000185825	BCAP31	B-cell receptor-associated protein 31	29.29265
ENSG00000135535	CD164	CD164 molecule, sialomucin	27.87156
ENSG00000116209	TMEM59	transmembrane protein 59	27.14167
ENSG00000169242	EFNA1	ephrin-A1	25.45083
ENSG00000125991	ERGIC3	ERGIC and golgi 3	23.85719
ENSG00000137575	SDCBP	syndecan binding protein (syntenin)	23.28259
ENSG00000170348	TMED10	transmembrane emp24-like trafficking protein 10	22.81517
ENSG00000185499	MUC1	mucin 1, cell surface associated	22.67739
ENSG00000085063	CD59	CD59 molecule, complement regulatory protein	22.50912
ENSG00000165678	GHITM	growth hormone inducible transmembrane protein	22.32091
ENSG00000204592	HLA-E	major histocompatibility complex, class I, E	21.31001
ENSG00000185201	IFITM2	interferon induced transmembrane protein 2	21.05689
ENSG00000136235	GPNMB	glycoprotein (transmembrane) nmb	21.05378
ENSG00000167642	SPINT2	serine peptidase inhibitor, Kunitz type, 2	20.10767
ENSG00000105855	ITGB8	integrin, beta 8	19.52254
ENSG00000181061	HIGD1A	HIG1 hypoxia inducible domain family, member 1A	19.25614
ENSG00000129562	DAD1	defender against cell death 1	19.03397
ENSG00000189143	CLDN4	claudin 4	18.2351
ENSG00000197747	S100A10	S100 calcium binding protein A10	17.40676
ENSG00000134531	EMP1	epithelial membrane protein 1	17.28867
ENSG00000039068	CDH1	cadherin 1, type 1, E-cadherin (epithelial)	17.15879
ENSG00000134910	STT3A	STT3A, subunit of oligosaccharyltransferase complex	16.6755
ENSG00000234745	HLA-B	major histocompatibility complex, class I, B	16.64644
ENSG00000130164	LDLR	low density lipoprotein receptor	16.08072
ENSG00000137648	TMPRSS4	transmembrane protease, serine 4	15.69976
ENSG00000169905	TOR1AIP2	torsin A interacting protein 2	15.60887
ENSG00000117394	SLC2A1	solute carrier family 2 member 1	15.18917

Supplementary Table 8 continued

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000154639	CXADR	coxsackie virus and adenovirus receptor	15.18358
ENSG00000124783	SSR1	signal sequence receptor, alpha	14.72424
ENSG00000143153	ATP1B1	ATPase, Na+/K+ transporting, beta 1 polypeptide	13.25801
ENSG00000125304	TM9SF2	transmembrane 9 superfamily member 2	13.00742
ENSG00000213853	EMP2	epithelial membrane protein 2	12.92196
ENSG00000172270	BSG	basigin	12.72395
ENSG00000113361	CDH6	cadherin 6, type 2, K-cadherin (fetal kidney)	12.68145
ENSG00000196776	CD47	CD47 molecule	12.57096
ENSG00000090339	ICAM1	intercellular adhesion molecule 1	12.46299
ENSG00000112149	CD83	CD83 molecule	12.09943
ENSG00000114638	UPK1B	uroplakin 1B	11.90432
ENSG00000105426	PTPRS	protein tyrosine phosphatase, receptor type, S	11.1177
ENSG00000204525	HLA-C	major histocompatibility complex, class I, C	10.99562
ENSG00000206503	HLA-A	major histocompatibility complex, class I, A	10.90217
ENSG00000134294	SLC38A2	solute carrier family 38, member 2	10.83701
ENSG00000179820	MYADM	myeloid-associated differentiation marker	10.82139
ENSG00000150093	ITGB1	integrin, beta 1	10.61463
ENSG00000143727	ACP1	acid phosphatase 1, soluble	10.42087
ENSG00000113946	CLDN16	claudin 16	10.29632
ENSG00000157765	SLC34A2	solute carrier family 34, member 2	10.20975
ENSG00000111371	SLC38A1	solute carrier family 38, member 1	10.19108
ENSG00000231389	HLA-DPA1	major histocompatibility complex, class II, DP alpha 1	10.14166
ENSG00000111897	SERINC1	serine incorporator 1	10.09344
ENSG00000171105	INSR	insulin receptor	9.853426
ENSG00000138449	SLC40A1	solute carrier family 40, member 1	9.618246
ENSG00000184697	CLDN6	claudin 6	9.611796
ENSG00000109133	TMEM33	transmembrane protein 33	9.55983
ENSG00000196126	HLA-DRB1	major histocompatibility complex, class II, DR beta 1	9.456549
ENSG00000135926	TMBIM1	transmembrane BAX inhibitor motif containing 1	9.342031
ENSG00000117335	CD46	CD46 molecule, complement regulatory protein	9.283966
ENSG00000143183	TMCO1	transmembrane and coiled-coil domains 1	9.17432
ENSG00000117472	TSPAN1	tetraspanin 1	9.05854
ENSG00000129353	SLC44A2	solute carrier family 44, member 2	8.826502
ENSG00000126709	IFI6	interferon, alpha-inducible protein 6	8.823432
ENSG00000111843	TMEM14C	transmembrane protein 14C	8.789676
ENSG00000114023	FAM162A	family with sequence similarity 162, member A	8.787756
ENSG00000181885	CLDN7	claudin 7	8.761999
ENSG00000129625	REEP5	receptor accessory protein 5	8.593896
ENSG00000008282	SYPL1	synaptophysin-like 1	8.266035
ENSG00000072274	TFRC	transferrin receptor	8.22994
ENSG00000144136	SLC20A1	coxsackie virus and adenovirus receptor	8.021186
ENSG00000134291	TMEM106	transmembrane protein 106C	7.720262

Supplementary Table 8 continued

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000091317	CMTM6	CKLF-like MARVEL transmembrane domain containing 6	7.678553
ENSG00000132824	SERINC3	serine incorporator 3	7.671082
ENSG00000147676	MAL2	mal, T-cell differentiation protein 2 (gene/pseudogene)	7.562574
ENSG00000137207	YIPF3	Yip1 domain family, member 3	7.261396
ENSG00000167601	AXL	AXL receptor tyrosine kinase	7.22305
ENSG00000184292	TACSTD2	tumor-associated calcium signal transducer 2	7.22198
ENSG00000102158	MAGT1	magnesium transporter 1	7.188333
ENSG00000026508	CD44	CD44 molecule (Indian blood group)	7.138366
ENSG00000170458	CD14	CD14 molecule	7.12119
ENSG00000085117	CD82	CD82 molecule	7.057445
ENSG00000162736	NCSTN	nicastrin	6.971713
ENSG00000163814	CDCP1	CUB domain containing protein 1	6.839487
ENSG00000163399	ATP1A1	ATPase, Na+/K+ transporting, alpha 1 polypeptide	6.835893
ENSG00000000003	TSPAN6	tetraspanin 6	6.728886
ENSG00000074696	PTPLAD1	protein tyrosine phosphatase-likeA domain containing1	6.61852
ENSG00000168542	COL3A1	collagen, type III, alpha 1	6.522386
ENSG00000162366	PDZK1IP1	PDZK1 interacting protein 1	6.502222
ENSG00000163347	CLDN1	claudin 1	6.39276
ENSG00000138069	RAB1A	RAB1A, member RAS oncogene family	6.368703
ENSG00000110660	SLC35F2	solute carrier family 35, member F2	6.288557
ENSG00000136238	RAC1	rho family, small GTP binding protein Rac1	6.276329
ENSG00000168003	SLC3A2	solute carrier family 3, member 2	6.271377
ENSG00000143570	SLC39A1	solute carrier family 39 (zinc transporter), member 1	6.238133
ENSG00000139163	ETNK1	ethanolamine kinase 1	6.223001
ENSG00000205155	PSENEN	presenilin enhancer gamma secretase subunit	6.163673
ENSG00000075420	FNDC3B	fibronectin type III domain containing 3B	6.031554
ENSG00000027697	IFNGR1	interferon gamma receptor 1	6.016456
ENSG00000005486	RHBDD2	rhomboid domain containing 2	6.009283
ENSG00000126353	CCR7	chemokine (C-C motif) receptor 7	5.981219
ENSG00000080822	CLDND1	claudin domain containing 1	5.933509
ENSG00000143771	CNIH4	cornichon family AMPA receptor auxiliary protein 4	5.916299
ENSG00000127838	PNKD	paroxysmal nonkinesigenic dyskinesia	5.828717
ENSG00000158769	F11R	F11 receptor	5.730896
ENSG00000116521	SCAMP3	secretory carrier membrane protein 3	5.625128
ENSG00000185475	TMEM179	transmembrane protein 179B	5.417608
ENSG00000100342	APOL1	apolipoprotein L, 1	5.403007
ENSG00000142949	PTPRF	protein tyrosine phosphatase, receptor type, F	5.398767
ENSG00000223865	HLA-DPB1	major histocompatibility complex, class II, DP beta 1	5.377537
ENSG00000168615	ADAM9	ADAM metallopeptidase domain 9	5.32102
ENSG00000012660	ELOVL5	ELOVL fatty acid elongase 5	5.273359
ENSG00000058668	ATP2B4	ATPase, Ca++ transporting, plasma membrane 4	5.232003
ENSG00000137642	SORL1	sortilin-related receptor, L Arepeats containing	5.231004

Supplementary Table 8 continued

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000162896	PIGR	polymeric immunoglobulin receptor	5.227802
ENSG00000003056	M6PR	mannose-6-phosphate receptor (cation dependent)	5.224203
ENSG00000146066	HIGD2A	HIG1 hypoxia inducible domain family, member 2A	5.152918
ENSG00000165029	ABCA1	ATP-binding cassette, sub-family A (ABC1), member 1	5.151048
ENSG00000204385	SLC44A4	solute carrier family 44, member 4	5.127177
ENSG00000170876	TMEM43	transmembrane protein 43	5.09721
ENSG00000112378	PERP	PERP, TP53 apoptosis effector	5.093402
ENSG00000108639	SYNGR2	synaptogyrin 2	5.065162
ENSG00000162695	SLC30A7	solute carrier family 30 (zinc transporter), member 7	4.985954
ENSG00000142166	IFNAR1	interferon (alpha, beta and omega) receptor 1	4.977811
ENSG00000080815	PSEN1	presenilin 1	4.925619
ENSG00000134247	PTGFRN	prostaglandin F2 receptor inhibitor	4.922035
ENSG00000136156	ITM2B	integral membrane protein 2B	4.912385
ENSG00000105974	CAV1	caveolin 1, caveolae protein, 22kDa	4.886942
ENSG00000140497	SCAMP2	secretory carrier membrane protein 2	4.87308
ENSG00000181704	YIPF6	Yip1 domain family, member 6	4.834596
ENSG00000197822	OCLN	occludin	4.777913
ENSG00000106565	TMEM176	transmembrane protein 176B	4.72775
ENSG00000137845	ADAM10	ADAM metallopeptidase domain 10	4.723125
ENSG00000034677	RNF19A	ring finger protein 19A, RBR E3 ubiquitin protein ligase	4.598878
ENSG00000146416	AIG1	androgen-induced 1	4.595464
ENSG00000133195	SLC39A11	solute carrier family 39, member 11	4.582642
ENSG00000100647	KIAA0247	KIAA0247	4.530086
ENSG00000059804	SLC2A3	solute carrier family 2, member 3	4.496145
ENSG00000132965	ALOX5AP	arachidonate 5-lipoxygenase-activating protein	4.478591
ENSG00000108219	TSPAN14	tetraspanin 14	4.468295
ENSG00000103978	TMEM87A	transmembrane protein 87A	4.433643
ENSG00000133872	TMEM66	transmembrane protein 66	4.422698
ENSG00000006327	TNFRSF12	TNF receptor superfamily, member 12A	4.421859
ENSG00000119888	EPCAM	epithelial cell adhesion molecule	4.396973
ENSG00000101294	HM13	histocompatibility (minor) 13	4.396281
ENSG00000119977	TCTN3	tectonic family member 3	4.384337
ENSG00000176945	MUC20	mucin 20, cell surface associated	4.334188
ENSG00000128335	APOL2	apolipoprotein L, 2	4.331177
ENSG00000183726	TMEM50A	transmembrane protein 50A	4.281261
ENSG00000204257	HLA-DMA	major histocompatibility complex, class II, DM alpha	4.240712
ENSG00000184743	ATL3	atlastin GTPase 3	4.214914
ENSG00000142627	EPHA2	EPH receptor A2	4.183465
ENSG00000105518	TMEM205	transmembrane protein 205	4.177423
ENSG00000174695	TMEM167	transmembrane protein 167A	4.164421
ENSG00000096092	TMEM14A	transmembrane protein 14A	4.088931
ENSG00000169508	GPR183	G protein-coupled receptor 183	4.063207

Supplementary Table 8 continued

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000112759	SLC29A1	solute carrier family 29 , member 1	4.058243
ENSG00000140391	TSPAN3	tetraspanin 3	4.02287
ENSG00000177674	AGTRAP	angiotensin II receptor-associated protein	3.983371
ENSG00000064651	SLC12A2	solute carrier family 12, member 2	3.948087
ENSG00000149932	TMEM219	transmembrane protein 219	3.929019
ENSG00000213625	LEPROT	leptin receptor overlapping transcript [	3.926181
ENSG00000168216	LMBRD1	LMBR1 domain containing 1	3.881611
ENSG00000125107	CNOT1	CCR4-NOT transcription complex, subunit 1	3.846612
ENSG00000148175	STOM	stomatin	3.822353
ENSG00000213064	SFT2D2	SFT2 domain containing 2	3.790306
ENSG00000113583	C5orf15	chromosome 5 open reading frame 15	3.786403
ENSG00000101337	TM9SF4	transmembrane 9 superfamily protein member 4	3.779673
ENSG00000121073	SLC35B1	solute carrier family 35, member B1	3.745886
ENSG00000134873	CLDN10	claudin 10	3.736479
ENSG00000144063	MALL	mal, T-cell differentiation protein-like	3.715467
ENSG00000205336	GPR56	G protein-coupled receptor 56	3.70202
ENSG00000136868	SLC31A1	solute carrier family 31 , member 1	3.667986
ENSG00000110651	CD81	CD81 molecule	3.66385
ENSG00000110848	CD69	CD69 molecule	3.627589
ENSG00000140395	WDR61	WD repeat domain 61	3.618967
ENSG00000166619	BLCAP	bladder cancer associated protein	3.61441
ENSG00000137393	RNF144B	ring finger protein 144B	3.57046
ENSG00000159346	ADIPOR1	adiponectin receptor 1	3.514508
ENSG00000152558	TMEM123	transmembrane protein 123	3.486441
ENSG00000145817	YIPF5	Yip1 domain family, member 5	3.471341
ENSG00000104549	SQLE	squalene epoxidase	3.464289
ENSG00000105677	TMEM147	transmembrane protein 147	3.459103
ENSG00000112697	TMEM30A	transmembrane protein 30A	3.446519
ENSG00000153292	GPR110	G protein-coupled receptor 110	3.442113
ENSG00000204308	RNF5	ring finger protein 5, E3 ubiquitin protein ligase	3.413003
ENSG00000162511	LAPTM5	lysosomal protein transmembrane 5	3.411439
ENSG00000142188	TMEM50B	transmembrane protein 50B	3.406173
ENSG00000177697	CD151	CD151 molecule (Raph blood group)	3.380418
ENSG00000166145	SPINT1	serine peptidase inhibitor, Kunitz type 1	3.357697
ENSG00000176485	PLA2G16	phospholipase A2, group XVI	3.334547
ENSG00000156642	NPTN	neuroplastin	3.324737
ENSG00000186501	TMEM222	transmembrane protein 222	3.318324
ENSG00000104067	TJP1	tight junction protein 1	3.315734
ENSG00000143753	DEGS1	delta(4)-desaturase, sphingolipid 1	3.306819
ENSG00000198715	C1orf85	chromosome 1 open reading frame 85	3.284892
ENSG00000168924	LETM1	leucine zipper-EF-hand transmembrane protein 1	3.281466
ENSG00000127526	SLC35E1	solute carrier family 35, member E1	3.262275

Supplementary Table 8 continued

ID	Gene Symbol	Gene Description	Fold increase over average
ENSG00000155659	VSIG4	V-set and immunoglobulin domain containing 4	3.238534
ENSG00000102471	NDFIP2	Nedd4 family interacting protein 2	3.21989
ENSG00000089327	FXYD5	FXYD domain containing ion transport regulator 5	3.187626
ENSG00000172005	MAL	mal, T-cell differentiation protein	3.153905
ENSG00000135750	KCNK1	potassium channel, subfamily K, member 1	3.134131
ENSG00000117525	F3	coagulation factor III (thromboplastin, tissue factor)	3.131976
ENSG00000160789	LMNA	lamin A/C	3.126175
ENSG00000110911	SLC11A2	solute carrier family 11, member 2	3.125207
ENSG00000077147	TM9SF3	transmembrane 9 superfamily member 3	3.119944
ENSG00000105223	PLD3	phospholipase D family, member 3	3.108245
ENSG00000182985	CADM1	cell adhesion molecule 1	3.080628
ENSG00000116299	KIAA1324	KIAA1324	3.053857
ENSG00000198818	SFT2D1	SFT2 domain containing 1	3.051243
ENSG00000002586	CD99	CD99 molecule	3.050298
ENSG00000111711	GOLT1B	golgi transport 1B	3.021777
ENSG00000184277	TM2D3	TM2 domain containing 3	3.011987

Supplementary Table 9. Antibodies used for FACS

Anti-CA125 (clone OC125)	Abcam	ab693
Anti-human CD31 – FITC/PE.Cy7 (clone WM59)	eBioscience	11-/25-0139
Anti-human CD45 - FITC/PE.Cy7 (clone HI30)	eBioscience	11-/25-0459
Anti-human CD235a - FITC (clone HIR2)	eBioscience	11-9998
Anti-human CD235a - FITC (clone HI264)	Biolegend	VII 70312
Anti-mouse CD31 – PE.Cy7 (clone 390)	eBioscience	25-0311
Anti-mouse CD45 - PE.Cy7 (clone 30-F11)	eBioscience	25-0451
Anti-mouse Ter119 - PE.Cy7 (clone TER-119)	eBioscience	25-5921
Alexa-594 anti-mouse	Invitrogen	A-21203
Alexa-660 anti-mouse	Invitrogen	A-21054
Anti-human EpCAM – efluor660 (Clone 1B7)	eBioscience	50-9326
Anti-human CD10-PE.Cy7 (clone SN5c)	eBioscience	25-0106
Anti-human CD44-PE (clone IM7)	eBioscience	12-0441
Anti-human CD49f-PerCP.efluor 770 (clone GoH3)	eBioscience	46-0495
Propidium Iodide	Invitrogen	P3566
Annexin V - FITC	BD Bioscience	556420

Supplementary Table 10. Antibodies used for immunohistochemistry

Anti-CA125 (clone M11)	Dako	M3520	1:50
Anti-CA125 (clone EPSISR23)	Abcam	ab134093	1:50
Anti-TP53 (clone DO-1)	Santa Cruz	sc-126	1:200
Anti-Pax8	ProteinTech	10336-1-AP	1:1000
Anti-γH2AX (Ser139) (clone 20E3)	Cell Signaling	9718	1:400
Anti-GFP	Gift from ON Witte		1:500
Alexa-594 anti-mouse	Invitrogen	A-21203	1:1000
Alexa-594 anti-rabbit	Invitrogen	A-21074	1:1000
Biotinylated anti-mouse	Vector	BMK-2202	1:1000
Biotinylated anti-rabbit	Jackson IR	111-065-003	1:1000
SA-fluorescein isothiocyanate (FITC)	Jackson IR	016-010-084	1:1000
SA-horseradish peroxidase	Jackson IR	016-030-084	1:1000

Supplementary Table 11. Antibodies used for western blot

Anti-ERK	Santa Cruz	sc-154	1:5000
Anti-CA125	Abcam	ab134093	1:10000
Anti-Rad51	Santa Cruz	ab693	1:200
Anti-E2F1	Abcam	ab4070	1:200
Anti-Fas	Abcam	ab15285	1:500
Anti-FADD	Santa Cruz	sc-5559	1:100
Anti-pan cIAP	R&D	MAB3400	1:500
Anti-cIAP1	Abcam	ab108361	1:1000
Anti-cIAP2	Abcam	ab137393	1:1000
Anti-NF-κB	Cell Signaling	8242	1:1000
Anti-phospho-NF-κB	Cell Signaling	3033	1:1000
Anti-PARP	Cell Signaling	9592	1:1000
Anti-XIAP	BD Bioscience	610716	1:1000
Anti-caspase 8	Cell Signaling	9746	1:1000
Biotinylated anti-mouse	Bio-Rad	170-6515	1:4000
Biotinylated anti-rabbit	Bio-Rad	170-6516	1:4000

Supplementary Table 12. Quantitative-PCR primer sets

CA125 F	5’-ACCCAGCTGCAGAACTTCA-3’
CA125 R	5’-GGTAGTAGCCTGGGCACTGT-3’
GAPDH F	5'-AGCCACATCGCTCAGACAC-3'
GAPDH R	5’-GAGGCATTGCTGATGATCTTG-3’
cIAP1 F	5’-AGGTGTGAGTTCTTGATACGAA-3’
cIAP1 R	5’-TTGTTTCACCAGGTCTCTATTA-3’
cIAP2 F	5’-AGGTGTTGGGAATCTGGAGAT-3’
cIAP2 R	5’-GCAGCATTAATCACAGGAGTA-3’