

**Supplementary Table 1**

Expression levels of the selected genes in vehicle-treated versus cisplatin-treated cells.

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<b>GenBank No.</b>	<b>Gene name</b>	<b>Fold change</b>	<b>P-value</b>
NM_003383	VLDLR	7.230	0.0095
NM_032387	WNK4	6.237	0.0042
<u>NM_000201</u>	<u>CD54</u>	<u>5.687</u>	<u>0.0013</u>
NM_002571	PAEP	4.371	0.0243
NM_002548	OR1D2	4.150	0.0492
NM_172160	KCNAB1	3.837	0.0198
NM_032375	AKT1S1	3.632	0.0365
NM_152291	MUC7	3.564	0.0318
NM_012128	CLCA4	3.416	0.0423
NM_014941	MORC2	3.307	0.0435
NM_014376	CYFIP2	3.282	0.0127
NM_147148	GSTM4	3.254	0.0235
NM_020889	PHF12	3.176	0.0472
NM_013278	IL17C	3.129	0.0497
NM_005082	TRIM25	3.019	0.0056
NM_024889	C10orf81	3.002	0.0143

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**Supplementary Table S2**The tumor initiation capabilities in CD54<sup>+</sup> versus CD54<sup>-</sup> PCa cells.

Group		No. cells / injection	No. tumors / No. injections
PC3	CD54 <sup>+</sup>	10,000	7/10
		100,000	9/10
	CD54 <sup>-</sup>	10,000	0/10
		100,000	2/10
LNCaP	CD54 <sup>+</sup>	10,000	6/10
		100,000	8/10
	CD54 <sup>-</sup>	10,000	0/10
		100,000	1/10
DU145	CD54 <sup>+</sup>	10,000	3/10
		100,000	5/10
	CD54 <sup>-</sup>	10,000	0/10
		100,000	0/10
22RV1	CD54 <sup>+</sup>	10,000	3/10
		100,000	4/10
	CD54 <sup>-</sup>	10,000	0/10
		100,000	0/10

**Supplementary Table 3**

Relationship between the expression levels of CD54 and clinicopathological features in prostate cancers

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<b>Total</b>		<b>Patients</b>	<b>Aberrant expression of</b>		<b><i>P</i></b>
			<b>High</b>	<b>Low</b>	
Age (years)	Mean	62.5	63.7	61.2	0.375
Stage (cases)	T1	32	13	19	<0.001
	T2	70	32	38	
	T3	89	58	31	
	T4	48	39	9	
Grade (cases)	G1 or 2	142	50	92	<0.001
	G3	97	83	14	
Lymphatic invasion (cases)	Negative	79	36	43	<0.005
	Positive	57	46	11	
	Unknown	103	58	45	
Chemo (cases)	Primary	24	6	18	<0.001
	Recurrent	12	9	3	
Follow-up (months)	Mean	73.2	72.5	73.9	0.576

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**Supplementary Table 4**

The tumor initiation number in primary (1°) and recurrent (2°) CD54<sup>+</sup> versus CD54<sup>-</sup> PCa xenograft mice.

Group		No. Cells/Injections	No. Tumors/Injections
1°	CD54 <sup>+</sup>	10,000	3/10
		100,000	5/10
	CD54 <sup>-</sup>	10,000	0/10
		100,000	0/10
2°	CD54 <sup>+</sup>	10,000	4/10
		100,000	7/10
	CD54 <sup>-</sup>	10,000	0/10
		100,000	0/10

## Supplementary Figure Legends

**Figure S1.** Tumor formation (photon counts) was monitored in the xenografts of cells from DDP-treated and vehicle-treated prostate cancer.

**Figure S2.** The expression of CD54 in PC3 cells as determined by FACS. **(A)** Knockdown or/and exogenous expression of CD54 in cancer cells. **(B)** Knockdown and exogenous expression of FLAG-labeled CD54 in cancer cells.

**Figure S3.** The mRNA expression of basal or progenitor markers in CD54<sup>+</sup> versus CD54<sup>-</sup> PC3 cells.

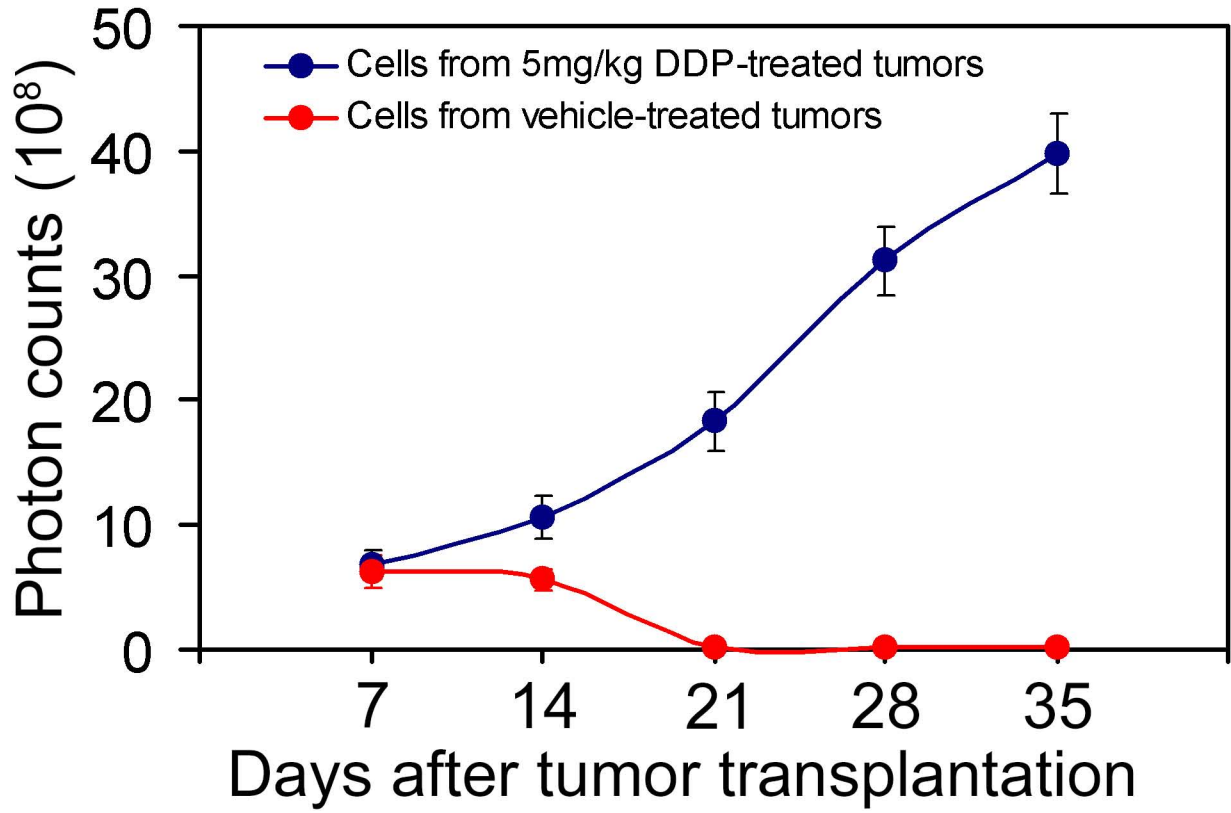
**Figure S4.** The tumor weight in primary (1°) and recurrent (2°) CD54<sup>+</sup> versus CD54<sup>-</sup> cancer cells xenografted into mice.

**Figure S5.** The representative and quantitative data of sphere formation capabilities in primary (1°) and recurrent (2°) PC3 cells. oe, overexpressed CD54; CD54-DAPT, cells treated with the CD54 inhibitor DAPT.

**Figure S6.** HE and IHC staining in the representative animals from the patient-derived xenograft mouse model.

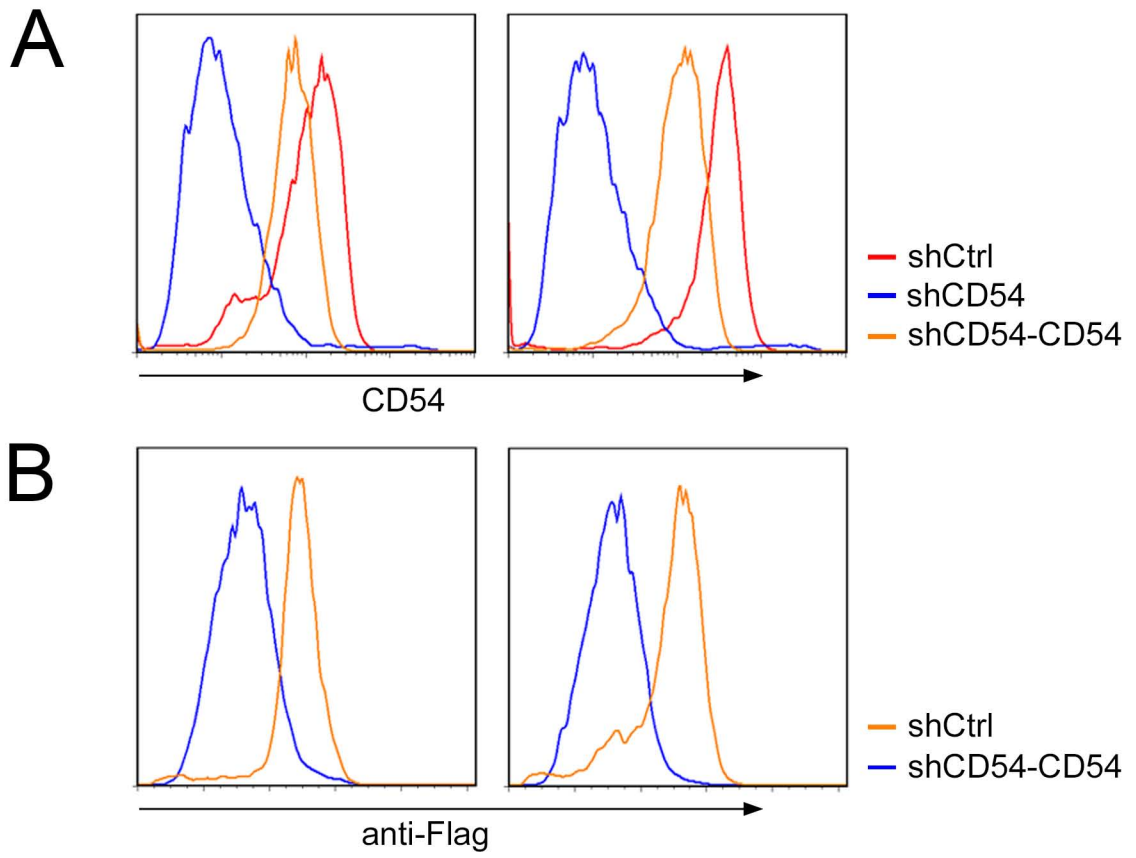
**Figure S7.** Flow cytometry analysis of CD54. (A, B) Upon culture for 15 days, FACS-sorted CD54<sup>+</sup> PC3 cells gradually reconstituted the original proportion of CD54-expressing cells.

# Li C, et al. Figure S1

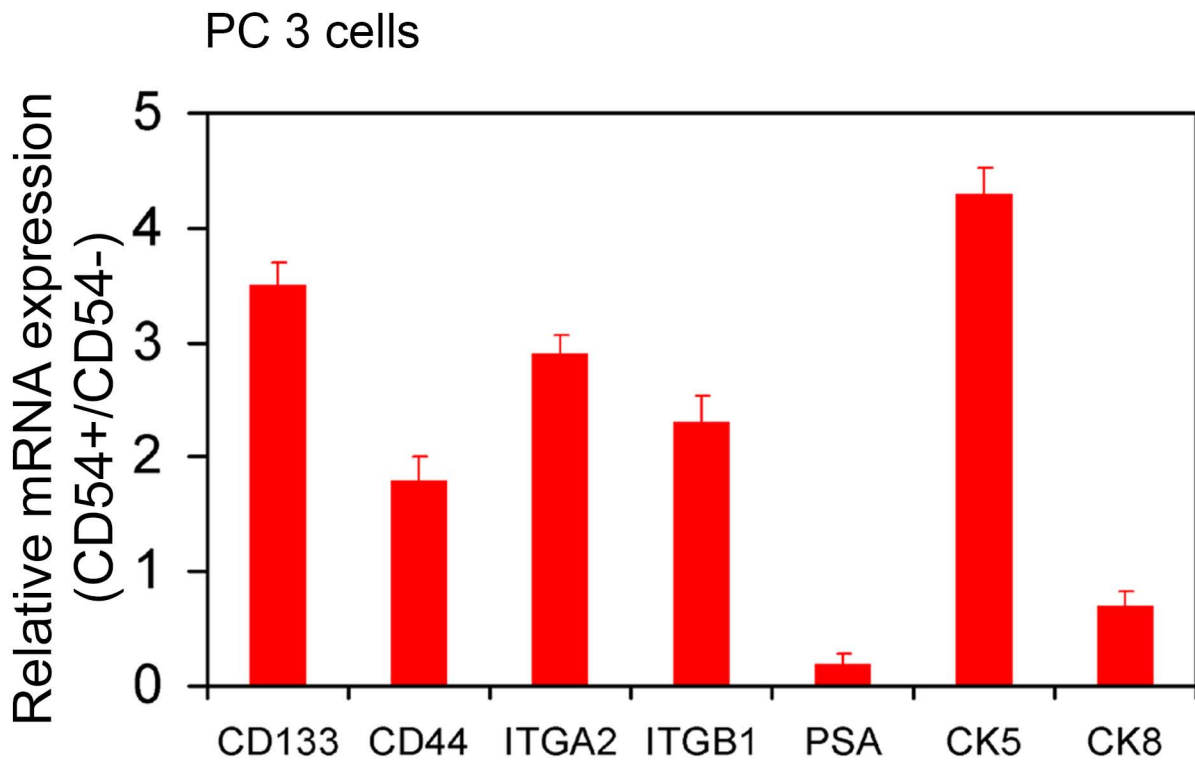


# Li C, et al. Figure S2

PC 3 cells

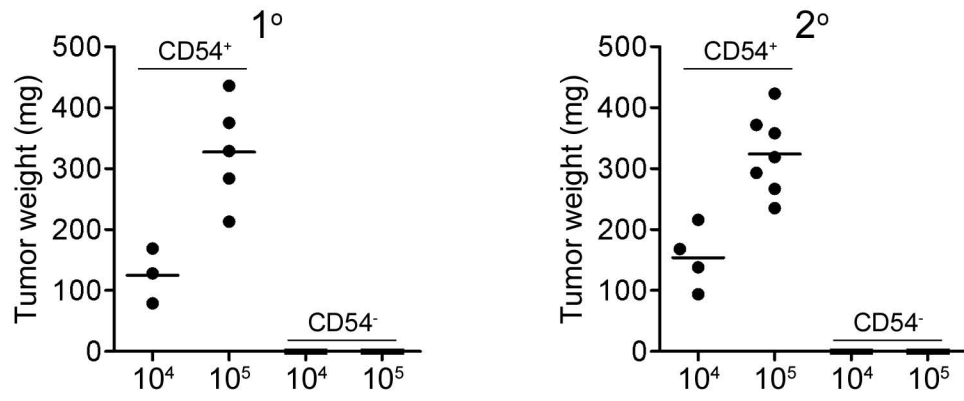


# Li C, et al. Figure S3

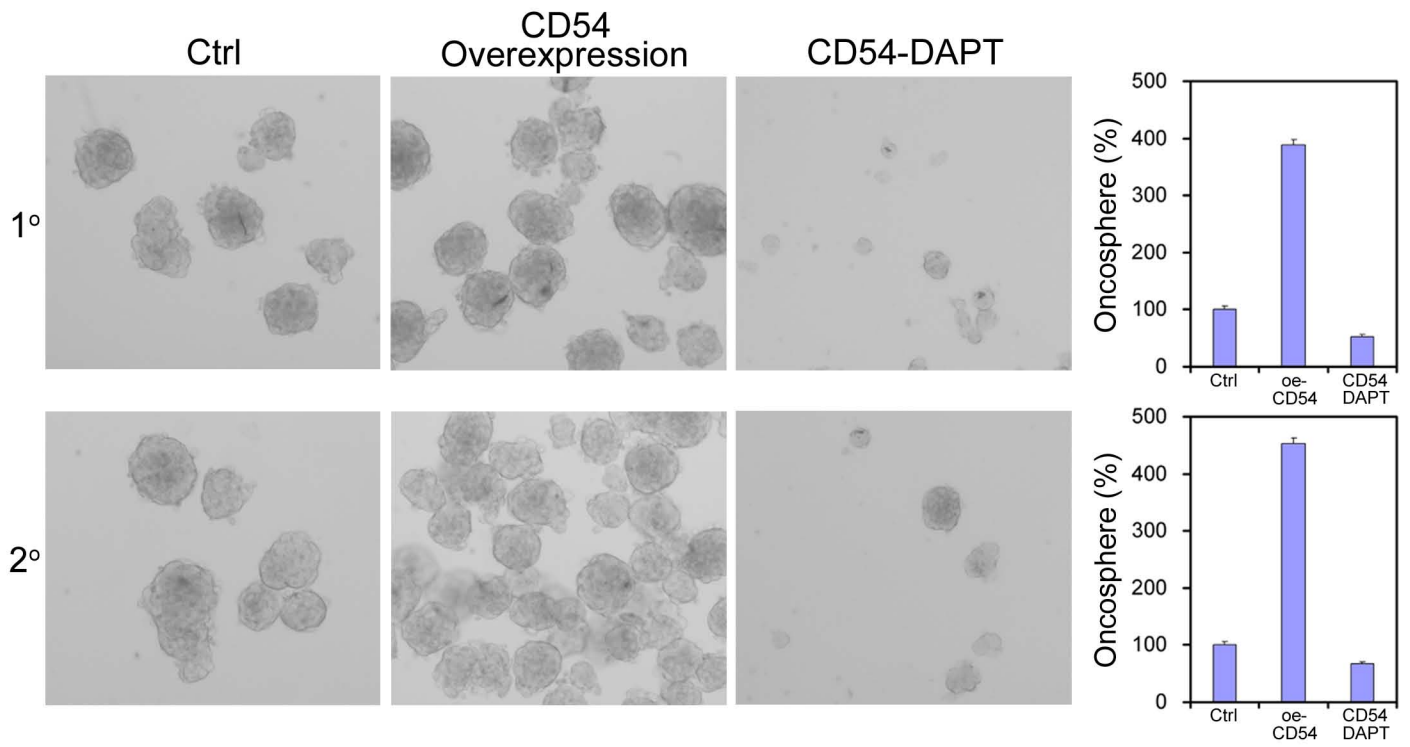


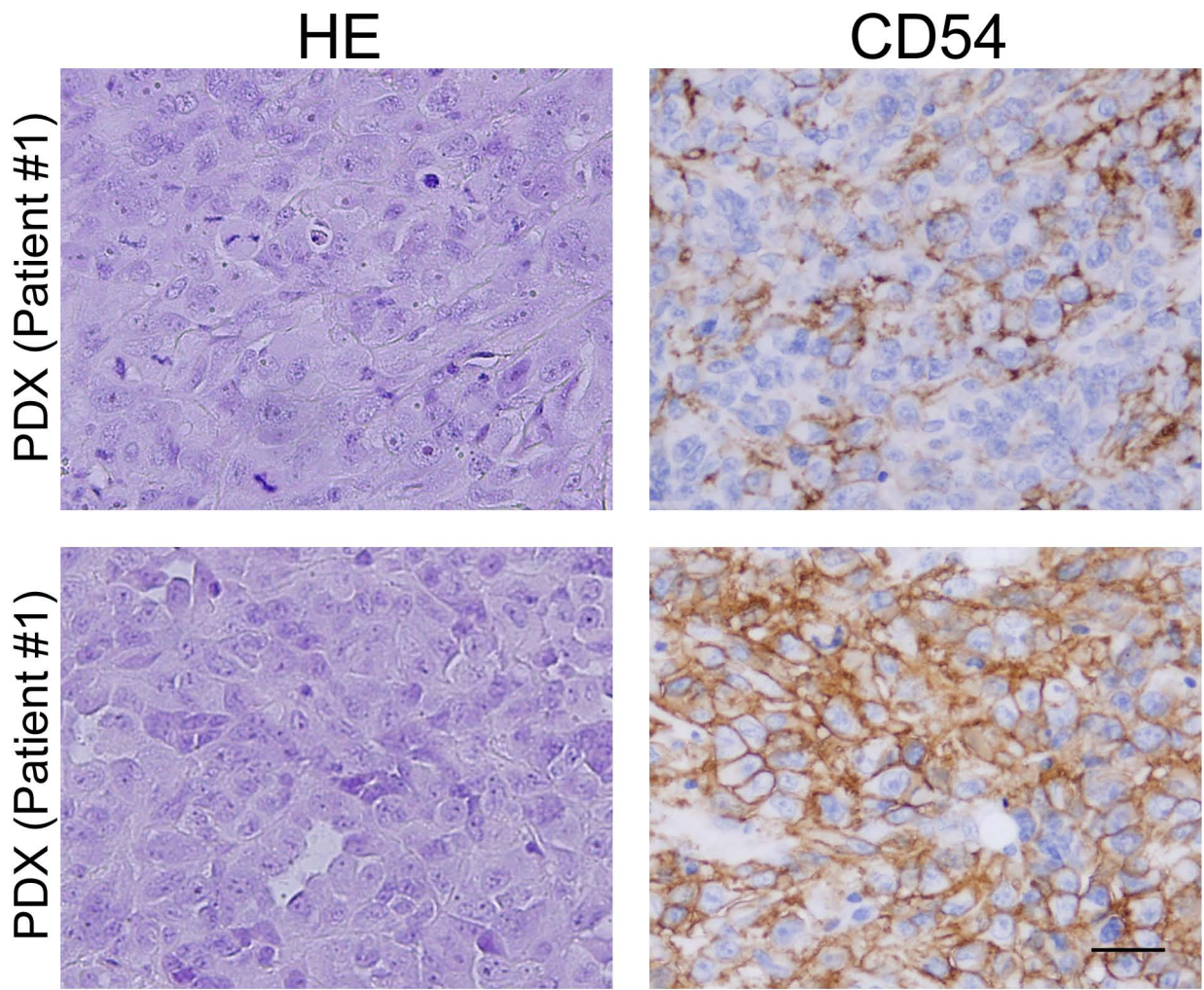


# Li C, et al. Figure S4



# Li C, et al. Figure S5





# Supplementary Figure 7

