### **Supplementary Figures Legends**

**Figure S1: PLA2R1 decreased favors RCC tumor growth.** ACHN cells were infected with a ctrl or with shRNA targeting PLA2R1 encoding vectors, puromycin selected and injected into nude mice as described in the figure 4. (A) Photographs show a representative picture of mouse at necropsy for each condition. (B) Statistical table with at each time of measure; the number of mice, the average of tumor volume, the SEM and the p value calculated using T-test.

# Figure S2: PLA2R1 expression inhibits transformation and decreases tumor growth in 786-0 cells. 786-0 cells were infected with a control or a PLA2R1 encoding retroviral vector and puromycin selected. (A) Ectopic expression of PLA2R1 was checked by Western-Blotting. Tubulin was used as loading control. (B) Twelve thousand and five hundred 786-O cells were seeded in agar and let to grow. After 1 week, colonies were counted for each indicated conditions and representative photographs are displayed. Histograms show a representative experiment from 3 independent experiments. Statistics were performed using T-test. \*\*\* represent p value< 0.005. (C) Five millions of 786-O cells were grafted in the right flank of 7 weeks old Nude mice. Tumor growth was monitored using caliper. Tumor volume was calculated using V=LxlxH/2. (D) Photographs show a representative picture of mice (upper panel) and tumor (lower panel) at necropsy for each condition. Scale bar represent 1cm. (E) Statistical table representing; the time of the measure, the number of mice, the average of the tumor volume, the SEM and the *p* value calculated using T-test.

**Figure S3: PLA2R1 increased blocks ACHN tumorigenicity.** ACHN were infected with a control vector or a vector encoding PLA2R1, selected and injected in nude mice as described

in the figure 6 legends. (A) Photographs show a representative picture of mice at necropsy.(B) Statistical table showing for each group; the number of mice, the tumor volume average, the SEM and the *p* value calculated using T-test.

Figure S4: PLA2R1 induces cell death and a proliferation decreased in 786-O derived tumors. Control or PLA2R1 constitutively expressing 786-O-derived tumors were collected, fixed and embedded. Tissue sections from tumors were then used to analyze proliferation and cell death for each experimental condition. (A-B) Immunohistochemistry against Ki-67 proliferation marker was performed. Nuclei were counterstained by an hematoxylin solution. (A) Histogram representing the percentage of Ki-67 positive cells was displayed. Positive cells were counted on at least 4 independent fields per tumor and at least 3 independent tumors. (B) Representative photographs are shown. (C-D) TUNEL assays were performed to label dying cells. After nuclear staining by Hoechst dye, the percentage of TUNEL positive cells was calculated (at least 3 independent tumors and at least 4 independent fields/ tumor analyzed). (C) Relative TUNEL positive cells were represented. (D) Images are shown.

### Figure S1, Vindrieux *et al*.



В

D16	Nh of mice	Tumor vol.	SEM	t-Test/ctrl
DIO	ND OF HICE	(mm3)	UCINI UCINI	p value
ctrl	4	13.3	9,1	
shPLA2R1-1	5	41.9	3,5	0,02735
shPLA2R1-6	5	57.4	10,6	0,02033
		Tours and so I		4 <b>T</b> = = 4/ = 4 = 1
D23	Nb of mice	Tumor vol.	SEM	t-lest/ctri
otri	4	(11113)	0.1	p value
	4	21.2	9,1	0.02001
SHPLAZRI-I	5	02.0	19.2	0.02991
SHPLAZKI-0	5	117.1	32.4	0.03070
Dor		Tumor vol.	0.514	t-Test/ctrl
D27	ND OF MICE	(mm3)	SEM	p value
ctrl	4	25.8	8.6	
shPLA2R1-1	5	111.7	23.4	0.01356
shPLA2R1-6	5	146.8	31.1	0.00878
		Tumor vol		t Toct/otrl
D30	Nb of mice	(mm 2)	SEM	-rest/ciri
otrl	4	46.8	14.8	p value
	4	40.8	25.2	0.01269
SHPLAZRI-I	5	147	25.3	0.01206
SHPLAZKI-0	5	196.5	31.9	0.00424
D34	Nh of mice	Tumor vol.	SEM	t-Test/ctrl
D34	Nb of mice	Tumor vol. (mm3)	SEM	t-Test/ctrl p value
D34 ctrl	Nb of mice	Tumor vol. (mm3) 51.8	<b>SEM</b> 16.6	t-Test/ctrl p value
D34 ctrl shPLA2R1-1	Nb of mice 4 5	Tumor vol. (mm3) 51.8 172.5	<b>SEM</b> 16.6 35.2	t-Test/ctrl p value 0.02047
D34 ctrl shPLA2R1-1 shPLA2R1-6	<b>Nb of mice</b> 4 5 5	Tumor vol. (mm3) 51.8 172.5 227.1	SEM 16.6 35.2 33.8	t-Test/ctrl p value 0.02047 0.00230
D34 ctrl shPLA2R1-1 shPLA2R1-6	<b>Nb of mice</b> 4 5 5	Tumor vol. (mm3) 51.8 172.5 227.1	SEM 16.6 35.2 33.8	t-Test/ctrl p value 0.02047 0.00230
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37	Nb of mice 4 5 5 Nb of mice	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3)	SEM 16.6 35.2 33.8 SEM	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl	<b>Nb of mice</b> 4 5 5 <b>Nb of mice</b> 4	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 62.2	SEM 16.6 35.2 33.8 SEM 20	t-Test/ctri p value 0.02047 0.00230 t-Test/ctri p value
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1	Nb of mice 4 5 5 Nb of mice 4 5	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 62.2 189.7	SEM 16.6 35.2 33.8 SEM 20 43.8	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6	Nb of mice 4 5 5 <b>Nb of mice</b> 4 5 5	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 62.2 189.7 254.4	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6	Nb of mice   4   5   5   Nb of mice   4   5   5	Tumor vol. (mm3)   51.8   172.5   227.1   Tumor vol. (mm3)   62.2   189.7   254.4	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6 D42	Nb of mice 4 5 5 Nb of mice 4 5 5 5	Tumor vol. (mm3)   51.8   172.5   227.1   Tumor vol. (mm3)   62.2   189.7   254.4   Tumor vol.	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6 D42	Nb of mice   4   5   Nb of mice   4   5   Nb of mice   5   Nb of mice	Tumor vol. (mm3)   51.8   172.5   227.1   Tumor vol. (mm3)   62.2   189.7   254.4   Tumor vol. (mm3)	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6 D42 ctrl	Nb of mice   4   5   5   Nb of mice   4   5   5   Nb of mice   4   5   4   5   4   5   4   5   4   5   4   5   4	Tumor vol. (mm3)   51.8   172.5   227.1   Tumor vol. (mm3)   62.2   189.7   254.4   Tumor vol. (mm3)   83.5	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM 35	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6 D42 ctrl shPLA2R1-1	Nb of mice   4   5   5   Nb of mice   4   5   5   Nb of mice   4   5   5	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 62.2 189.7 254.4 Tumor vol. (mm3) 83.5 222.8	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM 35 44.2	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value 0.05726
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-1 shPLA2R1-1 shPLA2R1-1 shPLA2R1-1	Nb of mice   4   5   5	Tumor vol. (mm3)   51.8   172.5   227.1   Tumor vol. (mm3)   62.2   189.7   254.4   Tumor vol. (mm3)   83.5   222.8   305.2	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM 35 44.2 44.9	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value 0.05726 0.00665
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-6 D42 ctrl shPLA2R1-6 D42 ctrl shPLA2R1-6	Nb of mice   4   5   5	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 62.2 189.7 254.4 Tumor vol. (mm3) 83.5 222.8 305.2 Tumor vol.	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM 35 44.2 44.9 20	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value 0.05726 0.00665 t-Test/ctrl
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-6 D42 ctrl shPLA2R1-1 shPLA2R1-1 shPLA2R1-6 D47	Nb of mice   4   5   Nb of mice   Nb of mice	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 83.5 222.8 305.2 Tumor vol. (mm3)	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM 35 44.2 44.9 SEM	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value 0.05726 0.00665 t-Test/ctrl p value
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6 D42 ctrl shPLA2R1-1 shPLA2R1-6 D47 ctrl	Nb of mice   4   5	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 62.2 189.7 254.4 Tumor vol. (mm3) 305.2 Tumor vol. (mm3) 111.8	SEM 16.6 35.2 33.8 SEM 20 43.8 31.8 SEM 35 44.2 44.9 SEM 50.3	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value 0.05726 0.00665 t-Test/ctrl p value
D34 ctrl shPLA2R1-1 shPLA2R1-6 D37 ctrl shPLA2R1-1 shPLA2R1-6 D42 ctrl shPLA2R1-1 shPLA2R1-1 shPLA2R1-1	Nb of mice   4   5   Nb of mice   4   5	Tumor vol. (mm3) 51.8 172.5 227.1 Tumor vol. (mm3) 62.2 189.7 254.4 Tumor vol. (mm3) 83.5 222.8 305.2 Tumor vol. (mm3) 111.8 280.6	SEM   16.6   35.2   33.8   SEM   20   43.8   31.8   SEM   35   44.2   44.9   SEM   50.3   48.8	t-Test/ctrl p value 0.02047 0.00230 t-Test/ctrl p value 0.04337 0.00121 t-Test/ctrl p value 0.05726 0.00665 t-Test/ctrl p value 0.06523

Α

















Е

D12	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value				
ctrl	4	45.7	14.6					
PLA2R1	4	21.1	5.1	0.019132				
D16	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value				
ctrl	4	117	27.3					
PLA2R1	4	36.6	5.1	0.001143				
D20	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value				
D20 ctrl	Nb of mice	Tumor vol. (mm3) 206	<b>SEM</b> 101	t-Test p value				
D20 ctrl PLA2R1	Nb of mice	Tumor vol. (mm3) 206 94.8	SEM 101 31.1	t-Test p value 0.080591				
D20 ctrl PLA2R1	Nb of mice 4 4	Tumor vol. (mm3) 206 94.8	SEM 101 31.1	t-Test p value 0.080591				
D20 ctrl PLA2R1 D24	Nb of mice 4 4 Nb of mice	Tumor vol. (mm3) 206 94.8 Tumor vol. (mm3)	SEM 101 31.1 SEM	t-Test p value 0.080591 t-Test p value				
D20 ctrl PLA2R1 D24 ctrl	Nb of mice 4 4 Nb of mice 4	Tumor vol. (mm3) 206 94.8 Tumor vol. (mm3) 591	SEM 101 31.1 SEM 248	t-Test p value 0.080591 t-Test p value				

# Figure S3, Vindrieux *et al*.

PLA2R1



В

А

D19	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value
ctrl	4	75	9.5	
PLA2R1	5	34	4.5	0.00639
D25	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value
ctrl	4	105	9	
PLA2R1	5	35	7	0.00058
D39	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value
ctrl	4	132.5	18.5	
PLA2R1	5	44	5	0.00227
D60	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value
ctrl	4	217	45	
PLA2R1	5	106	13	0.04756
D75	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value
ctrl	4	265	42	
PLA2R1	5	147	28	0.05736
D89	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value
ctrl	4	351	48	
PLA2R1	5	161	45	0.0286
D104	Nb of mice	Tumor vol. (mm3)	SEM	t-Test p value
ctrl	4	391	42	
PLA2R1	5	137	25.5	0.00149

## Figure S4, Vindrieux *et al*.

