

Wnt signalling promotes Cholangiocarcinoma growth and can be therapeutically targeted

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Supplementary Material:

Supplementary Figures 1-8

Supplementary Tables 1-6

Supplementary Figure 1: Further examples of Wnt ligand and target expression in human CC.

(A) WNT7B (green)/CD68 (red) expression in human CC. (B) BIRC5, LEF1, CCND2, SOX9, C-MYC, CTNNB1 (red) and BCL9 (green) expression in human CC. White arrows denote co-localisation. Black arrows denote nuclear positivity. Scale bar 50µm.

Supplementary Figure 2: Cholangiocarcinoma evolves over time and incorporates bone marrow derived macrophages in its microenvironment.

(A) Immunohistochemistry for DNA, Ctnnb1, Wnt7b and YFP, single channels from staining in Figure 2C. (B and C) Immunohistochemistry for c-MYC and CTNNB1 in non-tumour tissue in Kr19CreER^TR26Rp53^{ff} mice (D) Immunohistochemistry for Krt19 following onset of injury after 10 weeks of TAA through to 26 weeks. (E) Immunohistochemistry of rat cholangiocarcinoma, GFP (green), CD68 (white) and Wnt7b (red). Scale bar = 50um

Supplementary Figure 3: Macrophage loss inhibits xenografts growth

(A) Immunohistochemistry for CSFR1 (red) in CC-LP-1, SNU-1079 and WITT1 xenografts and human CC. White arrows show positive staining (B) Immunohistochemistry for CD68 (red) in WITT1 xenografts treated with vehicle, lipclod, GW2580 and AZD7507. Dot-plot is quantified macrophage number. (C) Mass and volume of WITT1 xenografts treated with vehicle, lipclod, GW2580 and AZD7507 (D) Murine Wnt7b mRNA in WITT1 vehicle, lipclod, GW2580 and AZD7507 treated xenografts. (E) Human BIRC5, CCND2 and CCNE mRNA in SNU-1079 and CC-LP-1 xenografts following Lipclod, GW2580, AZD7507 or vehicle. (F) Ki67 in SNU-1079 and CC-LP-1 xenografts

following Lipclod, GW2580, AZD7507 or vehicle. (G) Human Bax1 mRNA in SNU-1079 and CC-LP-1 xenografts following Lipclod, GW2580, AZD7507 or vehicle. Photomicrograph, TUNEL stain in SNU-1079 and CC-LP-1 xenografts following Lipclod, GW2580, AZD7507 or vehicle. (H) Human BIRC5, CCND2, CCNE mRNA in WITT1 vehicle, lipclod, GW2580 and AZD7507 treated xenografts (I) Ki67 in WITT1 vehicle, lipclod, GW2580 and AZD7507 treated xenografts. (J) Human Bax1 mRNA in WITT1 vehicle, lipclod, GW2580 and AZD7507 treated xenografts. TUNEL in WITT1 vehicle, lipclod, GW2580 and AZD7507 treated xenografts. Kruskal Wallis tests compared GW2580, AZD7507 and control. Mann Whitney U tests compared Lipclod and control, *P<0.05, **P<0.01, ***P<0.001. Scale bar = 50µm. SNU-1079 N: PBS-11, Liposomes-8, Lipclod-8, Gavage vehicle-8, GW2580-4 and AZD7507-6. CC-LP-1 N: PBS-9, Liposomes-6, Lipclod-15, Gavage vehicle-6, GW2580-3 and AZD7507-3. WITT1 N: PBS-8, liposomal PBS-6, Lipclod-7, GW2580-7 and AZD7507-8. Scale bar = 50µm.

Supplementary Figure 4: Macrophage depletion reduces canonical Wnt signalling in Cholangiocarcinoma

(A) Immunohistochemistry of macrophages (CD68) and M2 Macrophages (CD163) in control vs lipclod depleted. Histograms: quantification of macrophage depletion (B) Immunohistochemistry for CTNNB1 (red), Krt19 (green), DNA (blue) in CC following treatment with liposomal clodronate of vehicle. White arrows denote nuclear positivity. Histogram represents quantification of biliary nuclear CTNNB1 staining in vehicle treated vs liposomal treated animals. (C-F) Immunohistochemistry for BIRC5, SOX9, LEF1 and CCND2(brown) in TAA CC following treatment with vehicle vs Lipclod (Black arrows denote; Yellow arrows negative epithelial cells). Graphs - Quantification of BIRC5, SOX9, LEF1, CCND2 positive epithelial cells positive epithelial cells in TAA CC following vehicle or Lipclod treatment (N=10 per group). (G) Immunohistochemistry for Ki67 (red) and TUNEL (green) following depletion of macrophages with Lipclod. Graphs - Quantification of Ki67 positive epithelial nuclei and TUNEL positive epithelial nuclei in the two groups (N=10 per group). Data is represented as a mean ± s.e.m. Data was compared with a Mann Whitney U test where *p<0.05, **p<0.01, ***p<0.001. Photomicrograph scale bar 50µm.

Supplementary 5: Human CC lines express CTNNB1 and WNT7B and their growth is inhibited following Wnt inhibition. (A) Immunocytochemistry for WNT7B (green) and CTNNB1 (red) in human CC cell lines SNU-1079, CC-SW-1, SNU-1196, CC-LP-1 and WITT-1. Example of negative staining for WNT7B in SNU-1196 in Supplementary Figure 8B.

Supplementary Figure 6: Wnt signalling inhibition regulated CC cell proliferation

(A) mRNA expression of Wnt signalling targets and cell cycle gene expression in SNU-1196, CC-SW-1 and WITT1 lines treated with ICG-001 vs vehicle. Green represents down regulated, red up regulated (B) mRNA expression of Wnt signalling targets and cell cycle gene expression in SNU-1196, CC-SW-1 and WITT1 lines treated with C-59 vs vehicle. Green represents down regulated, red up regulated (C, G, K) Volume and Mass of SNU-1079, CC-LP-1 and WITT1 treated with vehicle, ICG-001 and C-59. (D, H, L) murine Wnt7b expression in SNU-1079, CC-LP-1 and WITT1 treated with vehicle, ICG-001 and C-59. (E, I, M) BIRC5, CCND2 and CCNE in SNU-1079, CC-LP-1 and WITT1 treated with vehicle, ICG-001 and C-59. (F, J, N) BAX1 mRNA expression in SNU-1079, CC-LP-1 and WITT1 treated with vehicle, ICG-001 and C-59. WITT1 N: Vehicle-14, ICG-001-9 and C-59-6. CC-LP-1 N: Vehicle-16, ICG-001-8, C-59-11. SNU-1079: Vehicle-15, ICG-001-8, C-59-9. Data was compared with a Kruskal Wallis test where * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Supplementary Figure 7: No systemic effects of Wnt inhibition on TAA treated rats.

(A) Body weights of TAA rats treated with vehicle, C-59, ICG-001 and lipclod. (B) Blood biochemistry of TAA rats treated with ICG-001 or C-59: AST, ALT, Albumin, Bilirubin, ALP. (C) mRNA expression of AurkA, AurkB and AurkC in TAA rats treated with vehicle, ICG-001 and C-59. Data is represented as a mean \pm s.e.m. * $P < 0.05$, ** $P < 0.01$.

Supplementary Figure 8: Positive and negative control for immunohistochemistry.

(A) Immunohistochemistry for CTNNB1, RSPO-1, WNT7B, LEF-1, BIRC5, BCL-9, CCND2 in E11.5 Embryonic tissue and no primary antibody control. (B) SNU-1079, CC-SW-1, SNU-1196, CC-LP-1 and WITT-1 CC lines stained with secondary antibodies only. Scale bars represent 20 μ m

Supplementary Table 1: Summary table of human tissues used in this study

CC and non-diseased liver tissue. Age, at the time of surgical intervention. Histological classification and TNM score.

Supplementary Table 2: Regulation of Wnt pathway and pathway targets in human CC compared to non-CC liver

Human CC vs non-cancerous controls. Data is represented as fold-change and P-value.

Supplementary Table 3: Wnt targets in rat TAA when treated with Liposomal Clodronate

Rat TAA vs age-matched controls and Liposomal clodronate vs vehicle. Data is represented as fold-change and P-value.

Supplementary Table 4: Wnt targets and cell cycle gene expression in human CC cells treated with ICG-001 and C-59

Pooled gene expression data for SNU-1079, CC-LP-1, CC-SW-1, WITT1 and SNU-1196 treated with ICG-001 or C-59 vs vehicle. Gene expression represented as fold-change. UD represents genes which were below the detectable threshold in both samples

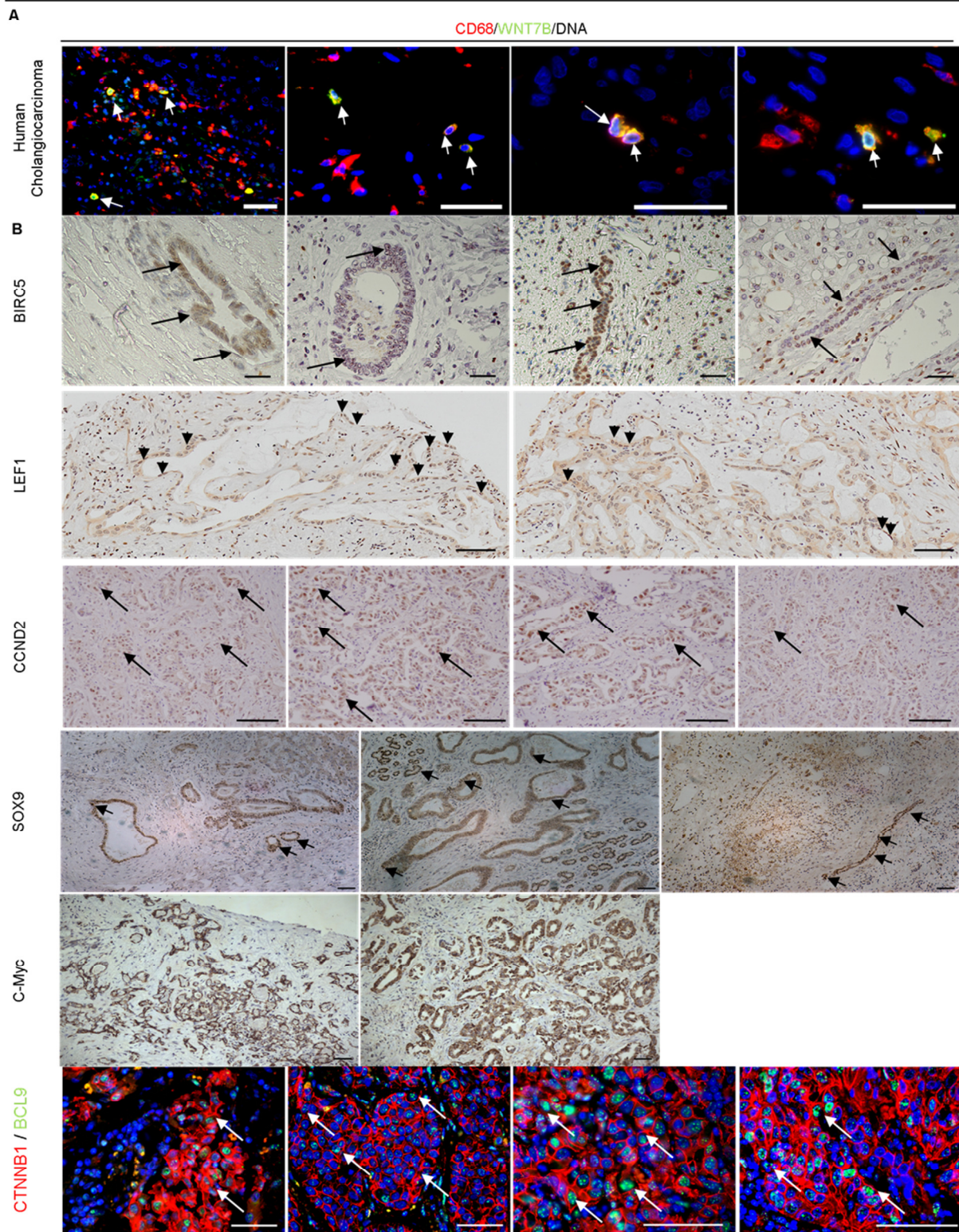
Supplementary Table 5: Wnt targets in rat TAA rat when treated with C-59 or ICG001

mRNA expression of Rat TAA induced CC treated with C-59 or ICG001 vs vehicle treated TAA liver alone data expressed as fold-change and P-value.

Supplementary Table 6: Antibodies and Primers used in this study.

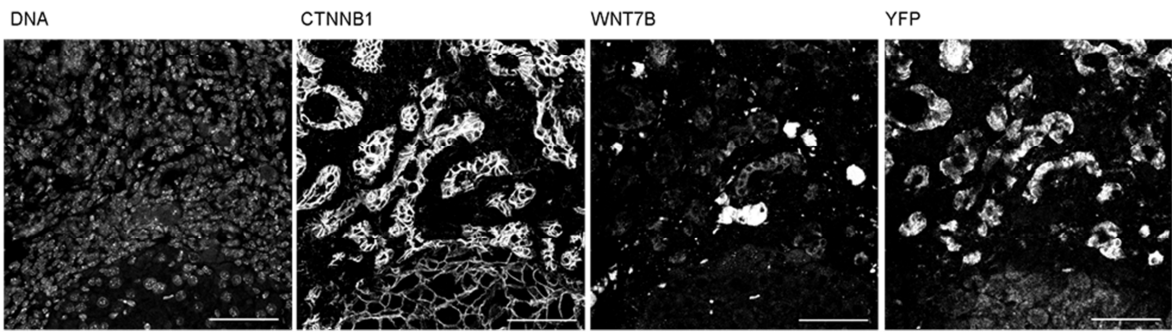
Supplementary Figure 1:

Human

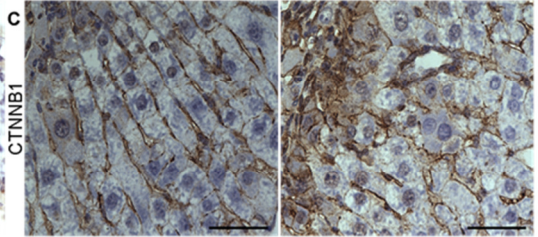
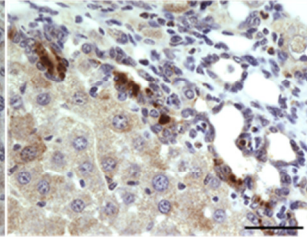
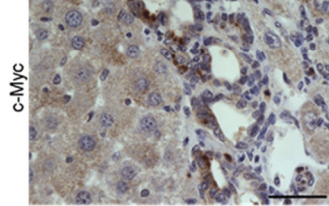


Supplementary Figure 2

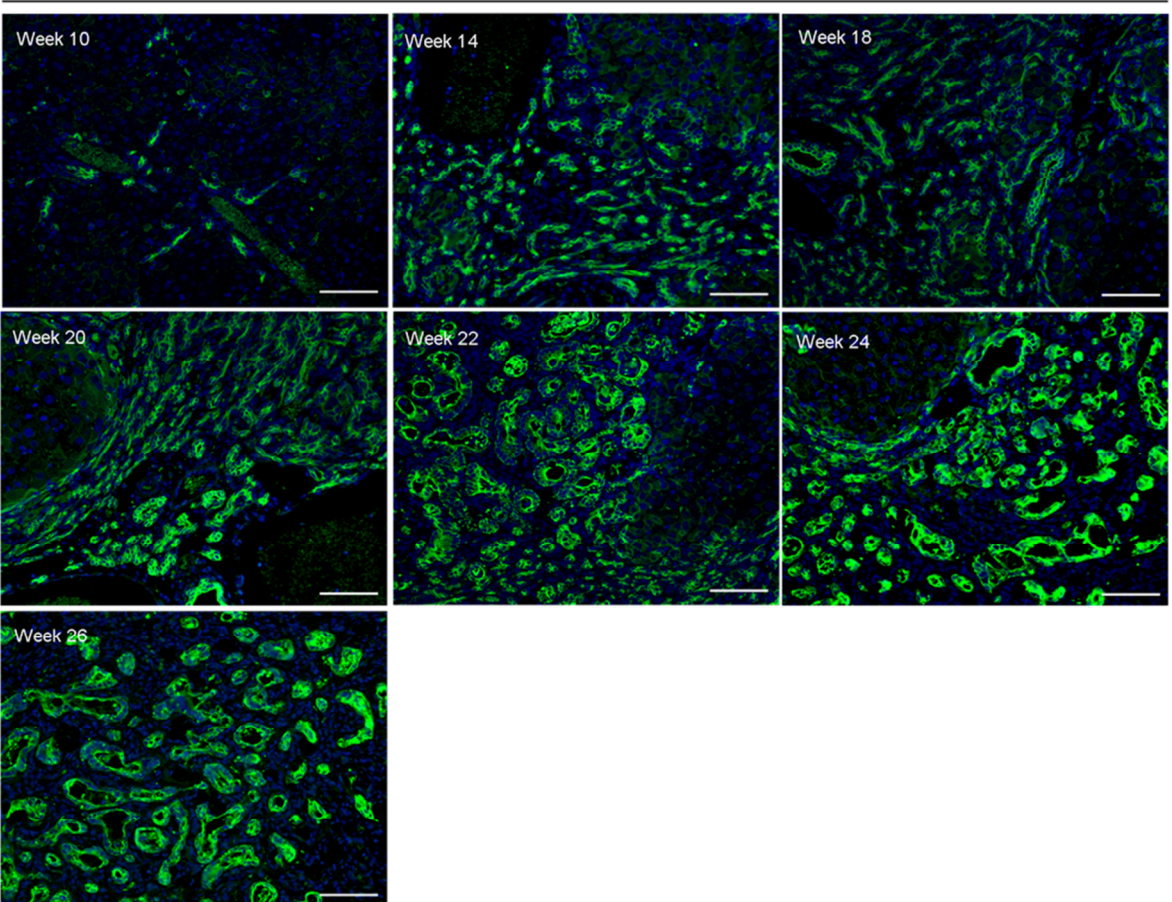
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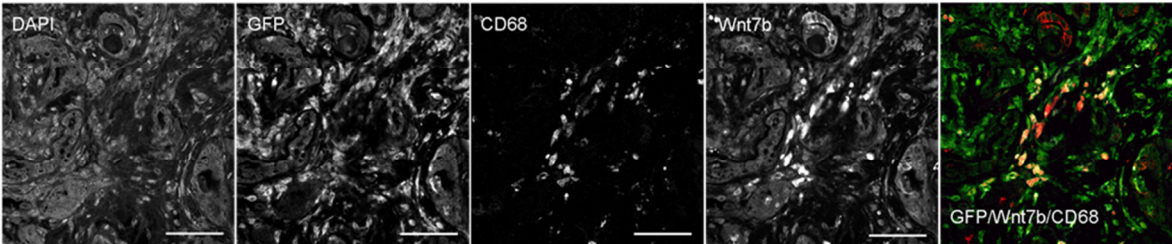
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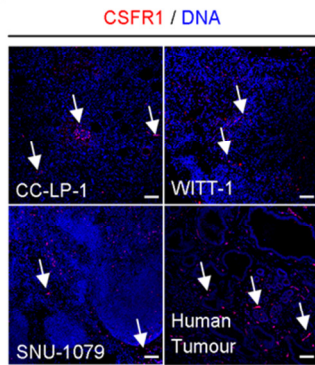


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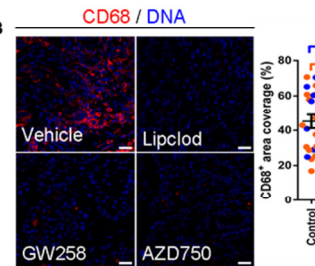


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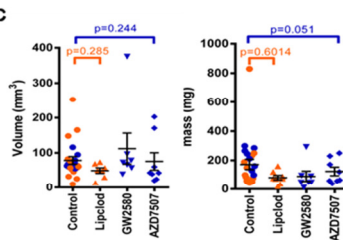
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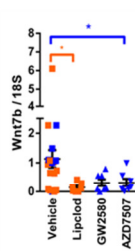
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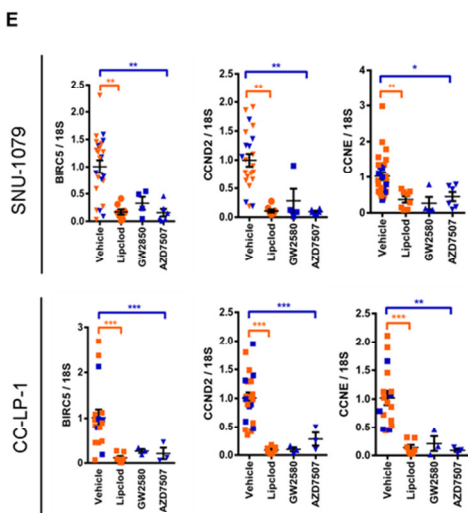
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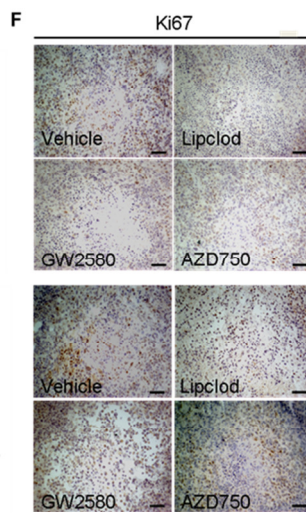
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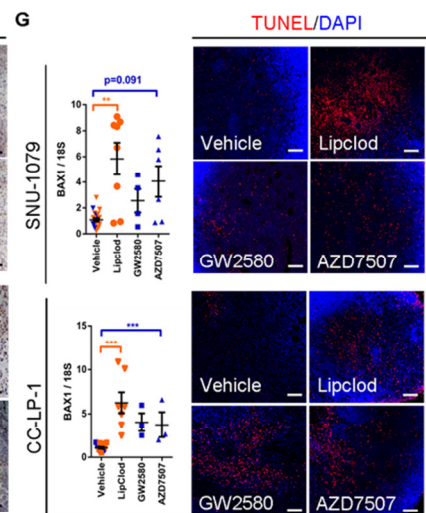
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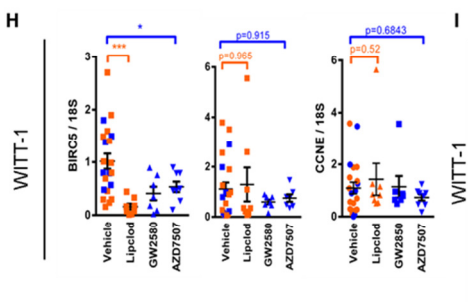
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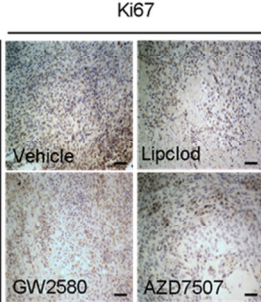
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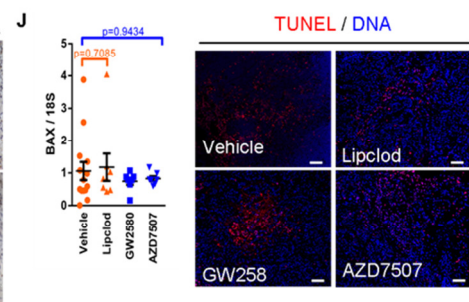
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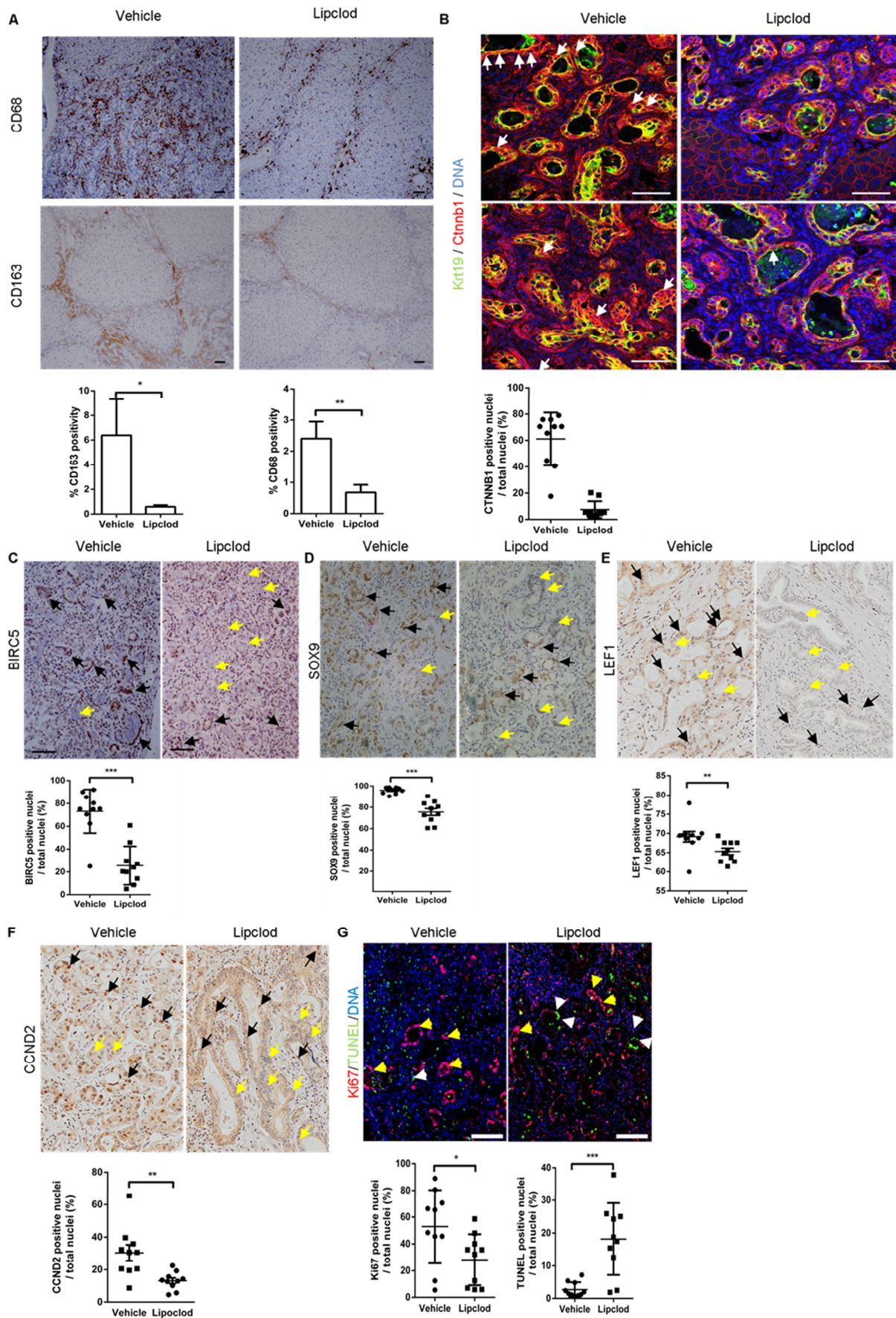
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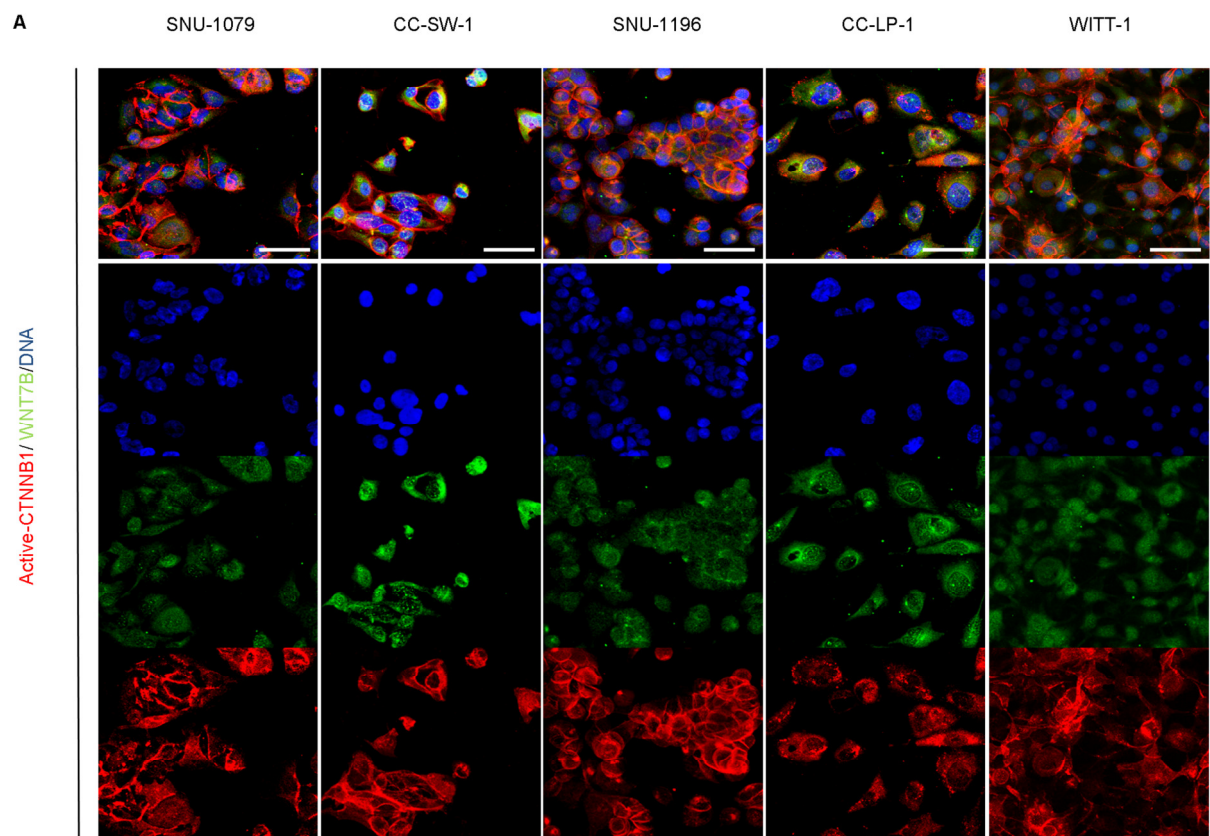
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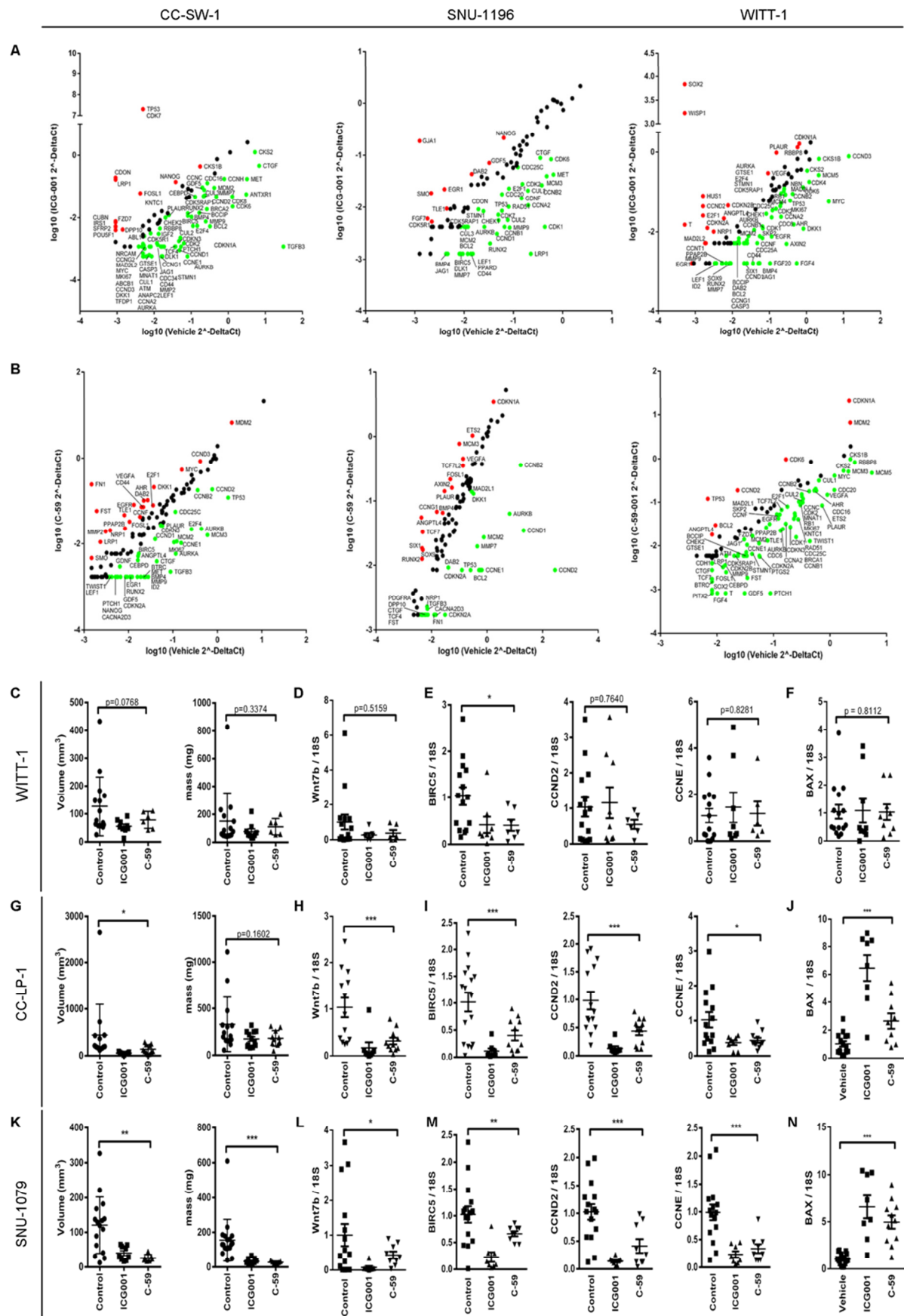
Supplementary Figure 4:



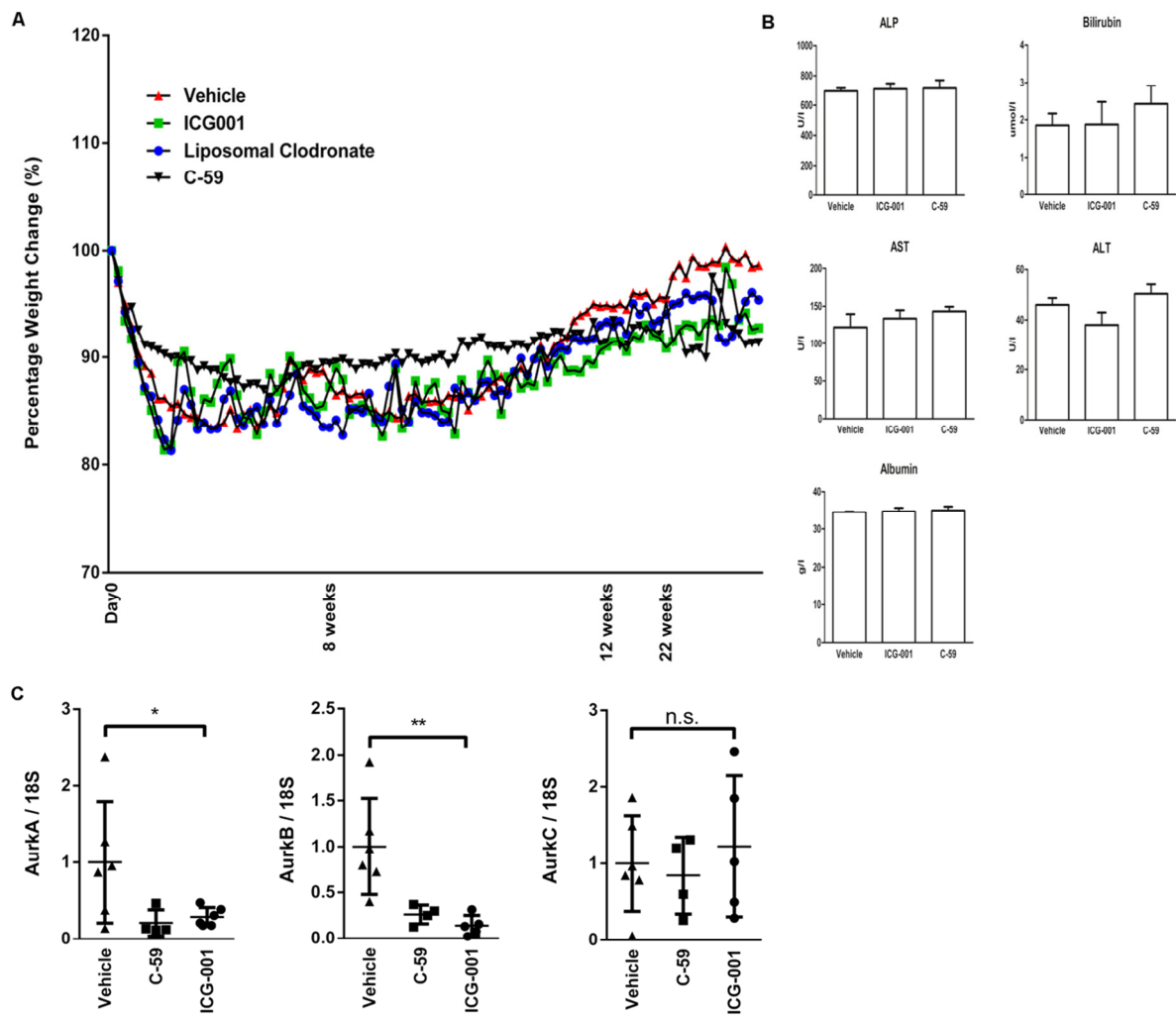
Supplementary Figure 5



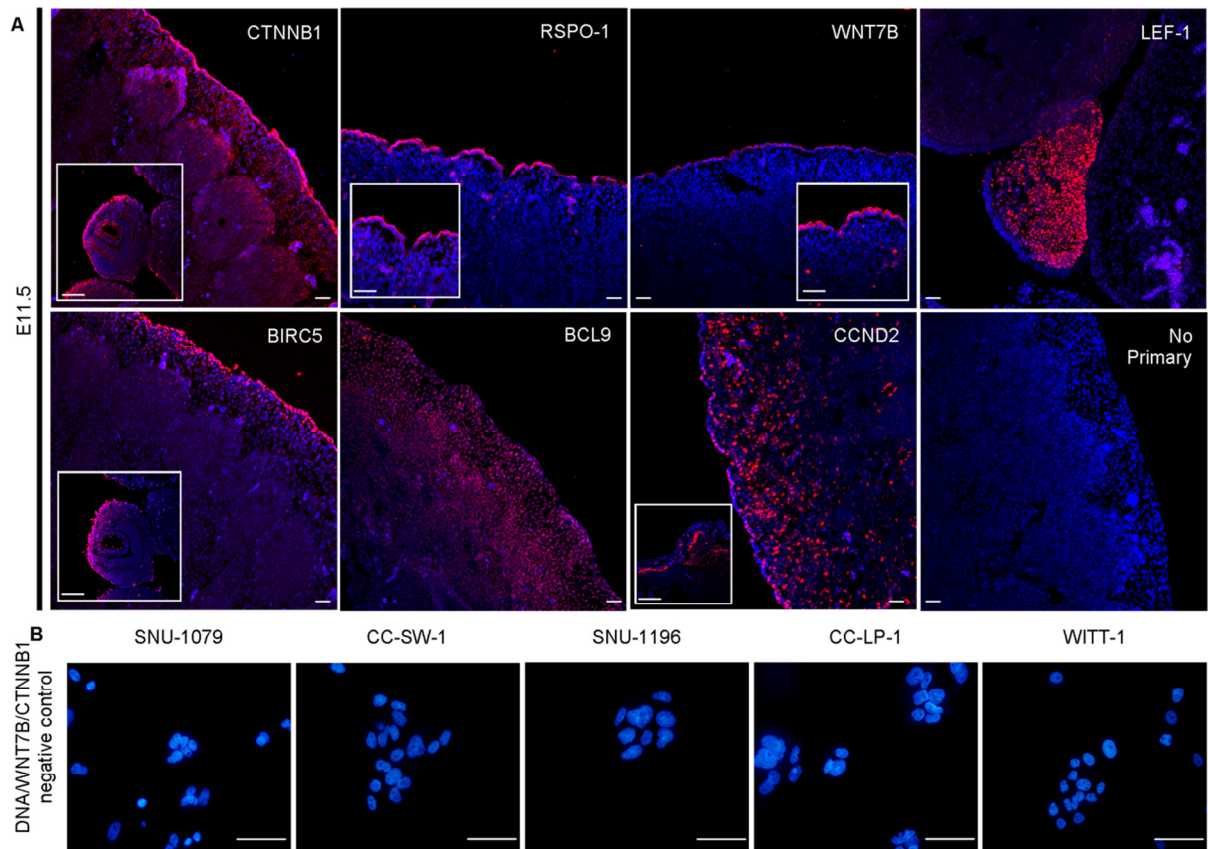
Supplementary Figure 6



Supplementary Figure 7



Supplementary Figure 8



Supplementary Table 1

Tissue source: The SAHSC BioResource and Tissue Governance Unit													
Case #	Age	Sex	Site (UICC/AJCC TNM)	Histiotype	Differentiation	Pattern	Stage (UICC/AJCC TNM 7)	Size (max dimension, mm)	Vascular invasion	LN involvement	Perineural invasion	Completeness of excision	Underlying disease
1	67	F	Perihilar	Adenocarcinoma	Poor	Mass forming	pT2b N2	31	Y	Y	Y	Incomplete	N
2	60	M	Perihilar	Adenocarcinoma	Well	Periductal infiltrating	pT2b N0	18	Y	N	Y	Complete	N
3	61	M	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2b N1	18	N	Y	N	Incomplete	N
4	52	F	Perihilar	Adenocarcinoma	Well	Mass forming	pT2b N0	23	N	N	Y	Complete	N
5	83	F	Perihilar	Adenocarcinoma	Well	Periductal infiltrating	pT2a N0	18	N	N	N	Complete	N
6	51	F	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2b N1	38	N	Y	Y	Incomplete	N
7	67	F	Perihilar	Adenocarcinoma	Poor	Periductal infiltrating	pT2b N0	25	Y	N	Y	Complete	N
8	83	F	Perihilar	Adenocarcinoma	Poor	Periductal infiltrating	pT2b N1	20		Y	Y	Complete	N
9	87	F	Intrahepatic	Adenocarcinoma	Moderate	Mass forming	pT1 N0	53	N	N	N	Complete	N
10	39	F	Perihilar	Adenocarcinoma	Poor	Periductal infiltrating	pT2a N0		N	N	Y	Complete	N
11	71	M	Intrahepatic	Adenocarcinoma	Poor	Mass forming	pT3 N0	62	Y	N	N	Complete	N
12	68	M	Perihilar	Adenocarcinoma	Well	Periductal infiltrating	pT2b N0		N	N	Y	Complete	N
13	49	M	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2a N1	30	N	Y	Y	Incomplete	N
14	82	M	Perihilar	Adenocarcinoma	Well	Periductal infiltrating	pT2b N1	22	N	Y	Y	Complete	N
15	79	M	Perihilar	Adenocarcinoma	Well	Intraductal	pT2a N0	32	N	N	Y	Complete	N
16	59	F	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2b N1	56	N	Y	Y	Incomplete	N
17	75	M	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2a N1	34	N	Y	N	Complete	N
18	50	M	Intrahepatic	Adenocarcinoma	Poor	Periductal infiltrating	pT3 No		N	N	Y	Incomplete	N
19	72	F	Intrahepatic	Cholangiolocellular carcinoma	Well	Mass forming	pT2b N0	36, + 3 smaller	N	N	N	Complete	PBC/immune cholangiopathy
20	68	F	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT1 N0	63	N	N	N	Complete	N
21	57	F	Intrahepatic	Adenocarcinoma	Moderate	Mass forming	pT1 N0	32	N	N	N	Complete	N
22	61	F	Perihilar	Adenocarcinoma	No Ca in block	Periductal infiltrating	pT2a N0	13	N	N	N	Incomplete	N
23	62	F	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2b N1	75	N	Y	Y	Complete	N

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24	74	F	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2a N2		N	N	N	Complete	N
25	59	M	Intrahepatic	Adenocarcinoma	Moderate	Mass forming	pT2b N0	Multiple recurrences	N	N	N	Complete	N
26	69	F	Intrahepatic	adenocarcinoma	Well	Mass forming	pT2a N0	26	Y	N	N	Complete	N
27	60	F	Intrahepatic	Adenocarcinoma	Moderate	Mass forming	pT3 N0	95	Y	N	N	Complete	N
28	27	F	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2a N0		N	N	Y	Incomplete	N
29	74	F	Perihilar	Adenocarcinoma	Moderate	Mass forming	pT2b N0	67	N	N	N	Incomplete	N
30	71	M	Perihilar	Adenocarcinoma	Moderate	Mass forming	pT2b N0	62	Y	N	N	Incomplete	N
31	45	M	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT1 N0	2.5	N	N	N	Complete	N
32	62	F	Perihilar	Adenocarcinoma	Moderate	Mass forming	pT2b N1	75	N	Y	Y	Complete	UC
33	62	F	Intrahepatic	Adenocarcinoma	Moderate	Mass forming	pT1 N0	78	N	N	N	Complete	N
36	57	M	Perihilar	Adenocarcinoma	Moderate	Periductal infiltrating	pT2a N0	32	N	N	Y	Complete	N
37	52	F	Perihilar	Adenocarcinoma	Well	Periductal infiltrating	pT2b N0	23	N	N	Y	Complete	N

Supplementary Table 1

Tissue source: NRS BioResource, Edinburgh			
Case #	Age	Sex	Diagnosis
1	47	M	15% macro steatosis
2	45	F	
3	60	M	
4	63	M	
5	51	M	
6	54	M	
7	50	M	
8	70	M	20% macro steatosis
9	48	M	
10	42	M	
11	48	M	40% macro steatosis
12	58	M	
13	30	M	
14	42	F	
15	66	M	
16	36	M	
17	39	M	
18	66	M	
19	50	F	
20	58	M	
21	53	M	
22	63	M	
23	49	M	
24	57	M	20% macro steatosis
25	43	M	15% macro steatosis
26	48	M	
27	52	M	
28	51	M	
29	43	M	

Tissue source: Pantomics Inc., California TMA LV1261						
Case #	Sex	Age	Anatomic Site	Pathology	Grade	Stage
1	F	78	Liver	Cholangiocarcinoma	I	T4N1M0
2	M	65	Liver	Cholangiocarcinoma	II	T2N0M0
3	M	52	Liver	Cholangiocarcinoma	I	T2N0M0
4	F	50	Liver	Cholangiocarcinoma	II	T3N1M0
5	M	78	Liver	Cholangiocarcinoma	II	T4N1M0
6	M	82	Liver	Cholangiocarcinoma	III	T2N0M0
7	F	75	Liver	Cholangiocarcinoma	II	T2N0M0
8	F	50	Liver	Cholangiocarcinoma	II	T2N0M0
9	M	59	Liver	Cholangiocarcinoma	II	T2N0M0
10	F	70	Liver	Cholangiocarcinoma	II	T2N0M0
11	M	40	Liver	Cholangiocarcinoma	II	T2N0M0
12	M	34	Liver	Cholangiocarcinoma	II	T2N0M0
13	M	60	Liver	Cholangiocarcinoma	II	T2N1M0
14	M	55	Liver	Cholangiocarcinoma	II	T2N0M0
15	M	70	Liver	Cholangiocarcinoma	II	T3N1M0
16	F	65	Liver	Cholangiocarcinoma	II	T2N0M0
17	M	77	Liver	Cholangiocarcinoma	II	T4N0M1
18	M	54	Liver	Cholangiocarcinoma	II	T3N1M0
19	M	56	Liver	Cholangiocarcinoma	II	T3N0M0
20	M	58	Liver	Cholangiocarcinoma	II	T3N1M0
21	M	55	Liver	Cholangiocarcinoma	II	T4N0M0
22	M	83	Liver	Cholangiocarcinoma	II	T3N0M0
23	M	56	Liver	Cholangiocarcinoma	II	T3N0M0
24	F	25	Liver	Cholangiocarcinoma	II	T3N0M0
25	M	62	Liver	Cholangiocarcinoma	I	T2N0M0
26	F	57	Liver	Cholangiocarcinoma	II	T2N1M0
27	M	53	Liver	Cholangiocarcinoma	II	T3N0M0
28	M	72	Liver	Cholangiocarcinoma	II	T2N0M0
29	M	55	Liver	Cholangiocarcinoma	III	T2N0M0
30	M	41	Liver	Cholangiocarcinoma	II~III	T4N0M0
31	M	70	Liver	Cholangiocarcinoma	II~III	T2N0M0
32	F	50	Liver	Cholangiocarcinoma	III	T3N0M0
33	F	75	Liver	Cholangiocarcinoma	II~III	T2N0M0
34	M	78	Liver	Cholangiocarcinoma	II	T2N1M0

Supplementary Table 1

35	F	50	Liver	Cholangiocarcinoma	II	T3N1M0
36	F	51	Liver	Cholangiocarcinoma	II	T3N0M0
37	F	80	Liver	Cholangiocarcinoma	II	T3N0M0
38	F	66	Liver	Cholangiocarcinoma	II~III	T3N0M0
39	M	70	Liver	Cholangiocarcinoma	II~III	T3N0M0
40	F	82	Liver	Cholangiocarcinoma	III	T4N0M0
41	M	65	Liver	Cholangiocarcinoma	III	T2N0M0

Tissue source: Pantomics Inc., California TMA LV1261				
Case #	Sex	Age	Anatomic Site	Pathology
1	M	55	Liver	Uninvolved liver tissue
2	M	41	Liver	Uninvolved liver tissue
3	M	70	Liver	Uninvolved liver tissue
4	F	50	Liver	Uninvolved liver tissue
5	F	75	Liver	Uninvolved liver tissue
6	M	78	Liver	Uninvolved liver tissue
7	F	50	Liver	Uninvolved liver tissue
8	F	51	Liver	Uninvolved liver tissue
9	F	80	Liver	Uninvolved liver tissue
10	F	66	Liver	Uninvolved liver tissue
11	M	70	Liver	Uninvolved liver tissue
12	F	82	Liver	Uninvolved liver tissue
13	M	65	Liver	Uninvolved liver tissue
14	F	53	Liver	Uninvolved liver tissue
15	F	78	Liver	Uninvolved liver tissue
16	M	65	Liver	Uninvolved liver tissue
17	M	52	Liver	Uninvolved liver tissue
18	F	50	Liver	Uninvolved liver tissue
19	M	78	Liver	Uninvolved liver tissue
20	M	82	Liver	Uninvolved liver tissue
21	F	75	Liver	Uninvolved liver tissue
22	F	50	Liver	Uninvolved liver tissue
23	M	59	Liver	Uninvolved liver tissue
24	F	70	Liver	Uninvolved liver tissue
25	M	40	Liver	Uninvolved liver tissue
26	M	34	Liver	Uninvolved liver tissue
27	M	60	Liver	Uninvolved liver tissue
28	M	55	Liver	Uninvolved liver tissue

Supplementary Table 1

29	M	70	Liver	Uninvolved liver tissue
30	F	65	Liver	Uninvolved liver tissue
31	M	77	Liver	Uninvolved liver tissue
32	M	54	Liver	Uninvolved liver tissue
33	M	56	Liver	Uninvolved liver tissue
34	M	58	Liver	Uninvolved liver tissue
35	M	55	Liver	Uninvolved liver tissue
36	M	83	Liver	Uninvolved liver tissue
37	M	56	Liver	Uninvolved liver tissue
38	F	25	Liver	Uninvolved liver tissue
39	M	62	Liver	Uninvolved liver tissue
40	F	57	Liver	Uninvolved liver tissue
41	M	53	Liver	Uninvolved liver tissue

Supplementary Table 2

Unigene	Refseq	Symbol	Fold Change	P value
Hs.489033	NM_000927	ABCB1	0.1747	0.421629
Hs.515053	NM_001130	AES	1.7399	0.748083
Hs.171189	NM_001621	AHR	0.6613	0.704241
Hs.9613	NM_001039667	ANGPTL4	0.3912	0.070093
Hs.165859	NM_018153	ANTXR1	3.9816	0.016173
Hs.158932	NM_000038	APC	0.6018	0.342147
Hs.592082	NM_003502	AXIN1	1.7239	0.373732
Hs.415209	NM_004326	AXIN2	1.8498	0.395939
Hs.643802	NM_033637	BCL9	1391.4114	0.035304
Hs.654541	NM_199173	BGLAP	0.5311	0.34666
Hs.728893	NM_001168	BIRC5	3.6353	0.108203
Hs.68879	NM_130851	BMP4	5.0092	0.121109
Hs.523852	NM_053056	BTRC	1.1911	0.669192
Hs.643802	NM_033637	BTRC	0.5551	0.335792
Hs.656687	NM_018398	CACNA2D3	2.2632	0.505006
Hs.376071	NM_001759	CCND1	89.926	0.142662
Hs.534307	NM_001760	CCND2	502.8555	0.019167
Hs.502328	NM_000610	CD44	1.5192	0.077196
Hs.461086	NM_004360	CDH1	0.6278	0.439948
Hs.512599	NM_000077	CDKN2A	15.3837	0.009461
Hs.38034	NM_016952	CDON	0.646	0.432212
Hs.440829	NM_005195	CEBPD	0.3844	0.145739
Hs.529862	NM_001892	CSNK1A1	0.9982	0.806901
Hs.631725	NM_001893	CSNK2A1	0.877	0.810796
Hs.646508	NM_022048	CTBP1	85.6669	0.0413035
Hs.591346	NM_001901	CTGF	4.9531	0.076707
Hs.644056	NM_001895	CTNNB1	1.7279	0.368189
Hs.208597	NM_001328	CTNNBIP1	1.5252	0.93029
Hs.166206	NM_001081	CUBN	0.3535	0.1669
Hs.501345	NM_022802	CXXC4	0.654	0.175228
Hs.476018	NM_001904	DAAM1	0.5628	0.196765
Hs.463759	NM_020248	DAB2	1.9507	0.127495
Hs.12248	NM_025212	DIXDC1	0.9079	0.338764

Supplementary Table 2

Hs.654934	NM_014992	DKK1	0.8801	0.433715
Hs.655626	NM_033425	DKK3	2.1871	0.385657
Hs.533717	NM_003836	DLK1	0.2695	0.336468
Hs.591555	NM_020868	DPP10	3.0018	0.241825
Hs.40499	NM_012242	DVL1	1.5376	0.507919
Hs.74375	NM_004421	DVL2	0.0901	0.340893
Hs.144700	NM_004429	EFNB1	2.0467	0.131136
Hs.488293	NM_005228	EGFR	0.4684	0.214059
Hs.326035	NM_001964	EGR1	0.28	0.053672
Hs.118640	NM_004422	EP300	1.7992	0.294279
Hs.644231	NM_005239	ETS2	0.2771	0.014438
Hs.517517	NM_001429	FBXW11	1.8096	0.345229
Hs.484138	NM_012300	FBXW4	2.3359	0.360514
Hs.199905	NM_019851	FGF20	0.0591	0.19561
Hs.1755	NM_002007	FGF4	0.0632	0.334883
Hs.567268	NM_002009	FGF7	7.501	0.058556
Hs.111	NM_002010	FGF9	4.847	0.305139
Hs.203717	NM_002026	FN1	0.2621	0.014635
Hs.283565	NM_005438	FOSL1	1.6828	0.289687
Hs.500822	NM_022039	FOSL1	0.4939	0.980325
Hs.1755	NM_002007	FOXP1	0.2592	0.207298
Hs.283565	NM_005438	FRAT1	0.8164	0.580084
Hs.663679	NM_003593	FRZB	1.8264	0.23172
Hs.9914	NM_006350	FST	0.0637	0.014093
Hs.126057	NM_005479	FZD1	3.6402	0.043581
Hs.128453	NM_001463	FZD2	2.7715	0.287782
Hs.36975	NM_000510	FZD3	356.807	0.190159
Hs.94234	NM_003505	FZD4	3.5488	0.521644
Hs.142912	NM_001466	FZD5	2.4777	0.127096
Hs.40735	NM_017412	FZD6	1.2737	0.47334
Hs.19545	NM_012193	FZD7	195.4515	0.200307
Hs.17631	NM_003468	FZD8	19.3689	0.327136
Hs.591863	NM_003506	FZD9	1.4346	0.693301
Hs.1573	NM_000557	GDF5	35.5575	0.304173

Supplementary Table 2

Hs.248114	NM_000514	GDNF	0.3456	0.711121
Hs.74471	NM_000165	GJA1	1.3123	0.057613
Hs.173859	NM_003507	GSK3A	3.7642	0.352465
Hs.302634	NM_031866	GSK3B	0.9597	0.67877
Hs.180919	NM_002166	ID2	0.1909	0.021169
Hs.160562	NM_000618	IGF1	0.0914	0.008854
Hs.523414	NM_000612	IGF2	0.1459	0.090791
Hs.654458	NM_000600	IL6	3.1131	0.963903
Hs.471508	NM_005544	IRS1	0.4656	0.144492
Hs.728907	NM_000214	JAG1	3.7278	0.027988
Hs.466828	NM_019884	JUN	0.9731	0.594883
Hs.508234	NM_001730	KLF5	5.3967	0.06284
Hs.445733	NM_002093	KREMEN1	154.2365	0.226321
Hs.714791	NM_002228	LEF1	308.1168	0.02936
Hs.162757	NM_002332	LRP1	0.2105	0.034102
Hs.229335	NM_001039570	LRP5	0.6166	0.183252
Hs.555947	NM_016269	LRP6	0.555	0.155665
Hs.6347	NM_002335	MAPK8	6.1575	0.75276
Hs.132966	NM_000245	MET	0.2846	0.7004
Hs.513617	NM_004530	MMP2	3.6133	0.018036
Hs.584775	NM_002336	MMP7	3.1836	0.095811
Hs.297413	NM_004994	MMP9	2.271	0.185335
Hs.202453	NM_002467	MYC	0.9281	0.568259
Hs.661360	NM_024865	NANOG	1.5285	0.428904
Hs.592059	NM_033119	NFATC1	1.1599	0.860189
Hs.208759	NM_016231	NKD1	1.2374	0.283018
Hs.643588	NM_000325	NLK	1.2475	0.449693
Hs.21422	NM_005010	NRCAM	1.7331	0.606889
Hs.131704	NM_003873	NRP1	0.5898	0.185177
Hs.494312	NM_006180	NTRK2	5.6162	0.2609
Hs.74615	NM_006206	PDGFRA	1.1961	0.349943
Hs.386453	NM_022825	PITX2	496.5058	0.103628
Hs.466871	NM_002659	PLAUR	3.6543	0.003192
Hs.483408	NM_002715	PORCN	3.8477	0.0382

Supplementary Table 2

Hs.249184	NM_002701	POU5F1	0.9376	0.346766
Hs.405156	NM_003713	PPAP2B	0.2326	0.016883
Hs.467192	NM_014225	PPARD	3.1145	0.34066
Hs.256587	NM_015617	PRICKLE1	0.5318	0.383244
Hs.494538	NM_000264	PTCH1	1.4016	0.296225
Hs.196384	NM_000963	PTGS2	2.2828	0.202303
Hs.647774	NM_021205	PYGO1	446.9594	0.053844
Hs.401388	NM_021627	RHOA	0.631	0.381721
Hs.713546	NM_003012	RHOA	0.8145	0.449993
Hs.535845	NM_004348	RUNX2	3.4963	0.434054
Hs.658169	NM_003014	RUVBL1	1.2078	0.451543
Hs.728760	NM_004252	SFRP1	0.6585	0.555706
Hs.481022	NM_003013	SFRP2	3.2991	0.923724
Hs.98367	NM_022454	SFRP4	2.9363	0.243111
Hs.716658	NM_005982	SIX1	2.6751	0.174451
Hs.437846	NM_005631	SMO	0.269	0.090111
Hs.389457	NM_003181	SOX17	0.7652	0.653382
Hs.518438	NM_003106	SOX2	0.1027	0.334281
Hs.647409	NM_000346	SOX9	3.5329	0.064583
Hs.389457	NM_003181	T	4.7431	0.334218
Hs.644653	NM_003199	TCF4	0.7236	0.856727
Hs.573153	NM_003202	TCF7	2.0098	0.087617
Hs.516297	NM_031283	TCF7L1	1.1492	0.821264
Hs.593995	NM_030756	TCF7L2	0.7081	0.973228
Hs.592317	NM_003239	TGFB3	0.7306	0.432056
Hs.197320	NM_005077	TLE1	1.5404	0.337627
Hs.66744	NM_000474	TWIST1	12.5715	0.088269
Hs.332173	NM_003260	VANGL2	5.6009	0.040011
Hs.73793	NM_003376	VEGFA	0.8421	0.886806
Hs.284122	NM_007191	WIF1	1.8455	0.453453
Hs.492974	NM_003882	WISP1	1.0322	0.373973
Hs.592145	NM_003881	WISP2	0.7531	0.334322
Hs.248164	NM_005430	WNT1	0.4804	0.321898
Hs.121540	NM_025216	WNT10A	5.8051	0.0186653

Supplementary Table 2

Hs.108219	NM_004626	WNT11	0.0949	0.048227
Hs.272375	NM_057168	WNT16	1.2518	0.691911
Hs.567356	NM_003391	WNT2	0.7298	0.684009
Hs.258575	NM_004185	WNT2B	0.8831	0.739681
Hs.445884	NM_030753	WNT3	0.4187	0.266615
Hs.336930	NM_033131	WNT3A	6.707	0.341422
Hs.336930	NM_033131	WNT3A	0.9491	0.399296
Hs.25766	NM_030761	WNT4	1.458	0.65577
Hs.696364	NM_003392	WNT5A	2.3933	0.368331
Hs.306051	NM_032642	WNT5B	0.0137	0.214647
Hs.29764	NM_006522	WNT6	0.4673	0.184066
Hs.72290	NM_004625	WNT7A	0.0878	0.154468
Hs.512714	NM_058238	WNT7B	7.147	0.0269222
Hs.591274	NM_058244	WNT8A	0.1333	0.079418
Hs.149504	NM_003395	WNT9A	6.6223	0.139943

Supplementary Table 3

Unigene	Refseq	Symbol	Week 26 TAA vs Week 26 Vehicle		Vehicle vs Liposomal Clodronate	
			Fold change	P value	Fold Change	P value
Rn.154810	NM_133401	Abcb1a	0.3124	0.537638	-2.8823	0.000946
Rn.91370	NM_013149	Ahr	0.7719	0.876842	-3.5732	0.000391
Rn.119611	NM_199115	Angptl4	0.4715	0.087664	-2.6492	0.03445
Rn.41192	NM_001044249	Antxr1	4.4467	0.026362	-5.6656	0.000418
Rn.162212	NM_024355	Axin2	1.7309	0.321267	-2.2123	0.000242
Rn.9722	NM_013414	Bglap	1.071	0.472776	1.1998	0.429668
Rn.54471	NM_022274	Birc5	1.3463	0.40443	-2.5092	0.103523
Rn.10318	NM_012827	Bmp4	2.172	0.155737	-5.2014	0.0171
Rn.21800	NM_001007148	Btrc	0.6743	0.422701	-4.1379	0.000006
Rn.206369	NM_175595	Cacna2d3	1.3986	0.407183	-3.4197	0.181397
Rn.22279	NM_171992	Ccnd1	1.0028	0.999982	-2.0546	0.004269
Rn.96083	NM_022267	Ccnd2	4.9126	0.047605	-2.0689	0.018486
Rn.1120	NM_012924	Cd44	2.716	0.025351	-2.3656	0.025613
Rn.1303	NM_031334	Cdh1	0.7593	0.352033	-4.0715	0.000022
Rn.48717	NM_031550	Cdkn2a	6.6013	0.053022	-2.4519	0.340502
Rn.10818	NM_017358	Cdon	1.0973	0.486838	-2.0978	0.000627
Rn.202620	NM_013154	Cebpd	0.4953	0.212764	-2.0809	0.101454
Rn.17145	NM_022266	Ctgf	5.996	0.0666	-4.6392	0.003486
Rn.3236	NM_053332	Cubn	0.4711	0.200303	-2.2588	0.282764
Rn.161784	NM_024159	Dab2	1.2848	0.745853	-3.6525	0.000044
Rn.214343	NM_001106350	Dkk1	2.2176	0.187561	-2.7111	0.344153
Rn.14547	NM_053744	Dlk1	0.3383	0.345789	-3.7035	0.1882
Rn.217077	NM_001012205	Dpp10	1.6503	0.31494	-4.5385	0.327301
Rn.44398	NM_017089	Efnb1	1.8519	0.170823	-1.7458	0.045454
Rn.37227	NM_031507	Egfr	0.543	0.324731	-2.9805	0.027033
Rn.9096	NM_012551	Egr1	0.6673	0.436509	-5.0475	0.187816
Rn.20403	NM_057104	Enpp2	0.3212	0.027582	-1.0062	0.993231
Rn.164554	NM_001107107	Ets2	0.0849	0.270618	-2.7049	0.000283
Rn.64492	NM_023961	Fgf20	0.1444	0.335377	-11.867	0.125809
Rn.81223	NM_053809	Fgf4	5.6383	0.071856	-13.9664	0.173042
Rn.98842	NM_022182	Fgf7	1.1998	0.396421	-3.4997	0.014612

Supplementary Table 3

Rn.25174	NM_012952	Fgf9	0.3039	0.015442	-5.594	0.002631
Rn.1604	NM_019143	Fn1	2.0248	0.112669	-1.9193	0.002031
Rn.11306	NM_012953	Fosl1	0.1297	0.018339	-4.8812	0.126972
Rn.162557	NM_012561	Fst	5.5318	0.02354	-1.6459	0.179177
Rn.127822	XM_001066344	Gdf5	12.775	0.306167	-13.6632	0.238315
Rn.53970	NM_019139	Gdnf	0.446	0.753026	-1.577	0.170702
Rn.10346	NM_012567	Gja1	2.5188	0.009723	-1.1177	0.966704
Rn.3272	NM_013060	Id2	0.2213	0.032189	-4.8812	0.000026
Rn.6282	NM_178866	Igf1	0.1157	0.019487	-1.9687	0.008581
Rn.118681	NM_031511	Igf2	0.2477	0.484296	-3.9237	0.08781
Rn.9873	NM_012589	Il6	1.225	0.717016	-8.3816	0.01944
Rn.10476	NM_012969	Irs1	0.4789	0.863025	-2.3277	0.000941
Rn.88804	NM_019147	Jag1	4.3214	0.020525	-4.2151	0.003374
Rn.8954	NM_053394	Klf5	3.4798	0.056881	-4.034	0.01764
Rn.21926	NM_130429	Lef1	11.5835	0.001844	-5.8383	0.126943
Rn.22436	XM_243524	Lrp1	0.2441	0.057217	-3.6315	0.000052
Rn.10617	NM_031517	Met	0.5088	0.96456	-2.1124	0.00209
Rn.6422	NM_031054	Mmp2	5.3157	0.005038	-2.093	0.027351
Rn.10282	NM_012864	Mmp7	4.1996	0.105957	-3.9647	0.107073
Rn.10209	NM_031055	Mmp9	2.0691	0.196252	-4.6877	0.002253
Rn.12072	NM_012603	Myc	0.5168	0.158704	-7.0237	0.000014
Rn.124668	NM_001100781	Nanog	1.0775	0.350126	-15.8223	0.339064
Rn.10691	NM_013150	Nrcam	1.2092	0.901405	-1.5789	0.082794
Rn.10815	NM_145098	Nrp1	0.7146	0.313081	-2.0357	0.019068
Rn.11246	NM_012731	Ntrk2	3.9525	0.23202	-14.1124	0.216782
Rn.55127	NM_012802	Pdgfra	1.4593	0.215249	-2.5237	0.001757
Rn.17591	NM_019334	Pitx2	1.1987	0.388749	-4.3436	0.395355
Rn.82711	NM_017350	Plaur	4.2361	0.00443	-4.9665	0.000015
Rn.161748	NM_001009178	Pou5f1	1.0869	0.850147	-5.2923	0.069973
Rn.12038	NM_138905	Ppap2b	0.3081	0.026834	2.4387	0.534456
Rn.96181	NM_013141	Ppard	1.944	0.096595	-10.4751	0.000009
Rn.105585	NM_053566	Ptch1	0.7639	0.432117	-2.5121	0.002561
Rn.44369	NM_017232	Ptgs2	2.4885	0.196045	-2.6707	0.043315
Rn.214214	NM_053470	Runx2	2.4863	0.253135	-3.3727	0.006011

Supplementary Table 3

Rn.102416	NM_001100700	Sfrp2	1.5292	0.725607	-4.7094	0.243448
Rn.23396	NM_053759	Six1	1.4342	0.398641	-5.1179	0.498894
Rn.44429	NM_012807	Smo	0.5554	0.348958	-3.4876	0.184429
Rn.219221	NM_001109181	Sox2	0.1466	0.334293	-5.3538	0.358484
Rn.95086	XM_001081628	Sox9	4.9942	0.017468	-4.3637	0.000304
Rn.218650	NM_001106209	T	2.0817	0.332785	-3.4119	0.391776
Rn.33103	NM_001107865	Tcf3	1.1331	0.893845	-4.2199	0.000012
Rn.23354	NM_053369	Tcf4	1.6777	0.174341	-3.5898	0.000316
Rn.106335	XM_343891	Tcf7	1.1479	0.659143	-2.5034	0.144293
Rn.105849	XM_001054844	Tcf7l2	0.9495	0.801479	-4.1715	0.00063
Rn.7018	NM_013174	Tgfb3	1.0554	0.920513	-4.6232	0.00021
Rn.6875	XM_342851	Tle1	1.8154	0.335994	-1.4082	0.193397
Rn.161904	NM_053530	Twist1	2.7043	0.314015	-11.4232	0.014558
Rn.1923	NM_031836	Vegfa	0.9762	0.912517	-5.3786	0.000157
Rn.63486	NM_031716	Wisp1	1.4656	0.341059	-2.4832	0.53539
Rn.53991	NM_031590	Wisp2	0.4279	0.334337	-5.8451	0.011305
Rn.218621	NM_001107005	Wnt3a	0.6519	0.437359	-2.5296	0.279573
Rn.48749	NM_022631	Wnt5a	0.9787	0.368322	1.197	0.341606
Rn.40411	NM_001105783	Wnt9a	2.4777	0.363072	-1.3937	0.2824

Supplementary Table 4

Unigene	Refseq	Symbol	ICG-001 treated cells					C-59 treated cells				
			1079	LP	WITT	SW1	1196	1079	LP	WITT	SW1	1196
Hs.737655	NM_000927	ABCB1	UD	0.0655	UD	0.1496	UD	0.3439	0.6543	UD	0.6373	0.9879
Hs.431048	NM_005157	ABL1	0.8444	0.6173	1.6888	0.483	1.3379	0.9879	1.0122	0.8293	1.9053	0.3686
Hs.171189	NM_001621	AHR	UD	UD	UD	UD	0.0333	0.6974	0.006	0.364	3.8816	1.0497
Hs.533262	NM_013366	ANAPC2	0.9767	UD	UD	0.1183	UD	UD	UD	UD	UD	UD
Hs.9613	NM_001039667	ANGPTL4	2.8	UD	UD	0.578	3.6535	0.05	0.1165	2.2069	0.3157	12.7286
Hs.165859	NM_018153	ANTXR1	0.7049	4.5765	1.7141	0.0184	UD	0.0913	0.2908	UD	0.7354	UD
Hs.367437	NM_000051	ATM	1.1696	0.0341	UD	0.0689	UD	0.5874	0.6678	0.4033	1.181	UD
Hs.271791	NM_001184	ATR	1.1065	0.1576	1.1376	1.8025	0.8586	1.4666	0.6725	0.8123	1.6472	0.5114
Hs.250822	NM_003600	AURKA	0.527	UD	0.4952	0.1183	0.2535	0.3718	0.0574	0.6285	0.0508	0.0148
Hs.442658	NM_004217	AURKB	0.1204	1.1204	0.1633	0.0352	0.1989	0.2487	0.0646	0.1672	0.0508	0.0098
Hs.156527	NM_004655	AXIN2	UD	UD	UD	UD	0.0172	0.1001	2.4589	0.7911	1.8877	2.9794
Hs.715543	NM_016567	BCCIP	1.4006	UD	0.8213	0.0866	0.4569	0.4154	0.5026	0.2146	0.933	1.1749
Hs.150749	NM_000633	BCL2	0.0696	0.0868	0.3501	0.0165	0.3392	3.2773	0.9122	3.1383	0.5625	0.0165
Hs.654541	NM_199173	BGLAP	0.8738	0.9102	1.2205	1.0134	1.0135	0.1469	0.0272	0.723	0.5212	1.6818
Hs.744872	NM_001168	BIRC5	0.0421	0.0483	0.1601	0.0495	UD	UD	0.1414	UD	0.3463	0.068
Hs.68879	NM_130851	BMP4	0.2407	0.0029	0.2988	0.1045	0.0323	0.2432	0.066	UD	0.0713	2.5937
Hs.194143	NM_007294	BRCA1	0.7824	1.0747	1.0182	0.5322	0.6156	0.2978	0.869	0.1487	1.3947	0.9091
Hs.34012	NM_000059	BRCA2	0.9767	0.0265	UD	0.0713	UD	UD	UD	UD	UD	0.068
Hs.643802	NM_033637	BTRC	1.0984	1.024	1.8372	0.7841	0.6874	0.168	UD	0.1871	0.0619	0.7448
Hs.656687	NM_018398	CACNA2D3	0.8799	1.8846	1.229	1.0347	UD	0.9352	0.0023	UD	0.2594	0.1203
Hs.141125	NM_004346	CASP3	1.0762	UD	0.7933	0.1183	0.4698	UD	0.9314	0.6373	UD	UD
Hs.58974	NM_001237	CCNA2	0.1422	UD	0.0543	0.1134	0.115	0.5635	0.5061	0.1934	0.5212	0.7592
Hs.23960	NM_031966	CCNB1	0.1589	UD	0.0636	UD	0.2059	0.6655	0.6231	0.1817	0.9526	0.5874
Hs.194698	NM_004701	CCNB2	0.1567	UD	0.0701	UD	0.2117	0.9948	0.7942	0.4175	0.4965	0.0223
Hs.633351	NM_005190	CCNC	1.46	UD	0.8621	0.4698	0.5824	0.4212	0.6103	0.483	0.9727	1.2248
Hs.523852	NM_053056	CCND1	0.0863	0.0129	0.3178	0.0326	0.0656	0.2257	0.051	0.6746	0.3231	0.0017
Hs.376071	NM_001759	CCND2	UD	0.4159	0.5571	0.5622	27.0958	0.0101	0.0034	8.1117	0.2449	0.0014
Hs.534307	NM_001760	CCND3	0.715	UD	1.3717	0.2466	0.0563	0.0771	1.1708	1.8532	2.0705	1.1038
Hs.244723	NM_001238	CCNE1	0.2805	0.1262	0.7933	0.0075	0.5664	0.866	0.1049	0.3057	0.0684	0.0131
Hs.1973	NM_001761	CCNF	0.6718	UD	0.6096	0.5743	0.1073	0.3957	0.7887	0.3463	2.3295	1.127
Hs.79101	NM_004060	CCNG1	0.2359	1.5199	1.7975	0.0374	0.4118	2.0885	0.9379	1.434	0.9013	4.3545
Hs.740456	NM_004354	CCNG2	0.9767	UD	UD	0.25	UD	UD	153.0119	UD	UD	UD
Hs.292524	NM_001239	CCNH	0.8444	0.0799	0.8988	0.2253	0.7792	1.3402	0.6678	0.6783	1.057	0.7969
Hs.92308	NM_001240	CCNT1	0.9767	UD	UD	UD	2.7132	UD	UD	UD	1.8277	UD
Hs.502328	NM_000610	CD44	0.1041	0.0993	0.0852	0.0796	0.0451	1.0257	0.0285	0.6653	3.3558	1.4641
Hs.374127	NM_003903	CDC16	0.9903	0.5487	1.3068	0.473	1.3013	0.6655	0.7997	0.3209	1.5476	1.331
Hs.524947	NM_001255	CDC20	0.1309	UD	0.3027	UD	0.507	0.1911	0.6586	0.1593	0.8351	1.0886
Hs.437705	NM_001789	CDC25A	0.3912	UD	0.7351	UD	0.1103	0.3236	0.6866	0.1869	1.4142	0.825
Hs.656	NM_001790	CDC25C	0.9903	UD	0.4783	UD	0.2483	0.9028	0.6188	0.2333	0.4897	0.9154
Hs.514997	NM_004359	CDC34	0.9767	0.0549	UD	0.1111	UD	UD	1.8119	0.6462	UD	UD
Hs.405958	NM_001254	CDC6	1.0324	UD	1.1376	UD	0.2832	0.4514	0.5895	0.1638	0.6552	1.0371
Hs.461086	NM_004360	CDH1	UD	UD	UD	UD	0.8405	0.0787	UD	0.4836	0.6537	1.1688
Hs.732435	NM_001786	CDK1	0.1402	UD	0.0097	UD	0.183	0.7133	0.453	0.0621	0.7846	1.0811
Hs.689624	NM_001798	CDK2	0.0721	UD	0.1838	0.0243	0.2207	0.6166	0.8873	0.4263	1.3379	0.6795
Hs.95577	NM_000075	CDK4	0.7663	UD	1.2025	UD	0.1507	0.7645	0.7778	0.6643	1.3851	1.1587
Hs.500015	NM_003885	CDK5R1	0.9176	UD	2.3883	0.3978	0.2349	0.2337	1.2636	0.6926	UD	0.8842
Hs.435952	NM_016408	CDK5RAP1	1.271	0.0197	0.4918	0.1426	0.2466	0.5753	1.7994	0.2912	0.6113	1.0299
Hs.119882	NM_001259	CDK6	0.0965	0.2198	0.1442	0.0175	0.1604	2.1177	1.482	5.8563	1.2142	0.5793
Hs.184298	NM_001799	CDK7	0.1503	UD	0.1452	4.06E+09	0.895	1.0811	0.6818	0.8123	1.181	1.0736
Hs.695166	NM_001260	CDK8	0.8213	0.036	0.8621	0.0374	1.181	UD	0.8873	0.6071	UD	UD
Hs.732576	NM_000389	CDKN1A	1.2977	UD	0.7933	0.507	2.5315	3.2098	0.4082	9.5137	1.8921	2.0035
Hs.238990	NM_004064	CDKN1B	0.5571	UD	1.3068	UD	1.5476	UD	UD	UD	UD	UD
Hs.512599	NM_000077	CDKN2A	UD	0.1343	UD	UD	9.249	UD	0.0381	0.1044	0.1989	0.0557
Hs.72901	NM_004936	CDKN2B	4.6784	UD	1.7363	0.5743	5.9794	0.0719	0.9314	0.2483	UD	1.5183
Hs.84113	NM_005192	CDKN3	1.1297	0.0449	0.5494	0.0387	0.5783	0.3517	0.9643	0.1349	0.5	0.634
Hs.38034	NM_016952	CDON	0.8799	0.007	0.4689	212.186	UD	0.2643	0.0147	UD	1.1647	0.3978
Hs.440829	NM_005195	CEBPD	1.1451	2.8763	0.5462	0.3684	0.6827	0.2122	0.0149	0.2574	0.2558	0.2813
Hs.595920	NM_001274	CHEK1	0.1336	UD	0.1123	UD	0.3415	1.2163	0.9643	0.8123	1.1567	0.9091
Hs.505297	NM_007194	CHEK2	1.1535	0.5799	0.8503	0.5	0.6926	UD	0.7059	0.1731	UD	UD
Hs.374378	NM_001826	CKS1B	0.6764	0.1677	1.0541	2.514	0.3099	0.5258	0.863	0.4263	1.0425	1.2768
Hs.83758	NM_001827	CKS2	1.5115	0.4582	0.73	0.2398	0.3276	0.6473	0.7359	0.3057	0.8706	1.331
Hs.410037	NM_001901	CTGF	0.4492	11.666	0.2548	0.0674	1.8268	0.2477	0.7464	0.3396	0.0909	0.2983
Hs.166206	NM_001081	CUBN	UD	0.0937	UD	5.6146	UD	UD	UD	UD	1.1647	UD

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Hs.146806	NM_003592	CUL1	0.1402	2.8167	0.1063	0.089	0.5946	0.7384	0.863	0.4965	1.1096	1.0515
Hs.82919	NM_003591	CUL2	0.1221	0.3989	0.0741	0.0451	0.6507	0.8904	0.5773	0.3276	0.9727	1.359
Hs.372286	NM_003590	CUL3	1.5977	0.3354	0.4135	0.2269	0.6643	0.5149	0.4593	0.6373	1.1647	1.0371
Hs.696631	NM_001343	DAB2	0.2391	0.9823	0.3472	0.7522	0.3948	0.5757	0.0009	0.713	4.6268	0.23
Hs.40499	NM_012242	DKK1	0.1523	0.0435	UD	0.3163	0.0144	0.5837	1.7029	1.4866	5.6569	0.4019
Hs.533717	NM_003836	DLK1	0.1062	0.0858	0.1365	0.0321	UD	0.0584	0.0131	UD	0.3368	UD
Hs.580539	NM_020868	DPP10	UD	0.5192	UD	2.988	UD	0.6256	0.0042	UD	1.007	0.2308
Hs.654393	NM_005225	E2F1	0.0411	UD	0.2824	UD	15.7797	0.1479	1.3264	0.4475	2.2191	1.3402
Hs.108371	NM_001950	E2F4	0.5021	UD	1.9399	0.0379	0.2059	0.3374	0.2188	0.8827	0.083	1.0371
Hs.144700	NM_004429	EFNB1	1.1855	0.226	1.4117	1.5149	UD	UD	UD	UD	0.1426	UD
Hs.605083	NM_005228	EGFR	3.0072	UD	UD	1.3279	0.0662	0.8448	0.1385	0.3665	6.1475	0.7819
Hs.708393	NM_001964	EGR1	1.2444	1.833	5.608	0.611	2.0129	UD	UD	UD	0.1493	UD
Hs.644231	NM_005239	ETS2	UD	4.1821	UD	UD	1.0205	0.2443	0.0036	0.3516	0.9794	3.5064
Hs.199905	NM_019851	FGF20	UD	0.1823	UD	UD	0.0156	0.0676	0.2694	UD	1.1647	UD
Hs.1755	NM_002007	FGF4	UD	UD	UD	UD	0.003	UD	UD	0.082	1.1647	UD
Hs.567268	NM_002009	FGF7	1.6534	UD	3.3577	1.1885	UD	0.1256	0.0135	UD	0.5212	UD
Hs.111	NM_002010	FGF9	UD	UD	UD	UD	1.042	0.0952	0.0059	UD	1.0116	1.5316
Hs.203717	NM_002026	FN1	UD	UD	UD	UD	UD	0.9704	0.2585	UD	165.4212	0.1358
Hs.283565	NM_005438	FOSL1	1.1937	0.1004	1.5342	14.5121	0.6195	1.7092	0.277	0.1722	3.1023	4.6268
Hs.9914	NM_006350	FST	UD	UD	UD	1.865	UD	0.189	0.0038	0.0537	30.1343	0.4948
Hs.173859	NM_003507	FZD7	1.1691	0.0383	1.1388	8.5102	1.7645	0.3099	0.027	0.3901	1.3379	0.5267
Hs.80409	NM_001924	GADD45A	0.7505	UD	UD	UD	UD	UD	UD	UD	UD	UD
Hs.1573	NM_000557	GDF5	1.0758	0.38	2.2	0.3509	UD	0.0786	0.0033	0.0269	0.186	UD
Hs.248114	NM_000514	GDNF	0.0567	0.0007	0.1016	0.5832	UD	0.0634	0.0017	UD	0.4644	UD
Hs.74471	NM_000165	GJA1	UD	0.826	150.9026	UD	UD	UD	0.0158	UD	1.1647	UD
Hs.439524	NM_016426	GTSE1	1.0541	UD	0.5571	0.1466	0.2382	0.404	0.7257	0.1989	0.8827	0.7083
Hs.152983	NM_004507	HUS1	0.9767	UD	1.9132	UD	49.5221	0.3796	15.7524	UD	UD	UD
Hs.726053	NM_002166	ID2	2.243	0.8375	1.7869	1.1089	0.4411	0.4465	UD	UD	0.1088	0.6902
Hs.160562	NM_000618	IGF1	0.0984	0.0482	UD	0.5356	UD	0.1004	0.0069	UD	0.8606	UD
Hs.716962	NM_000612	IGF2	UD	1.7953	UD	0.2315	UD	UD	UD	UD	0.4774	UD
Hs.654458	NM_000600	IL6	UD	UD	UD	UD	UD	0.1029	0.0074	UD	1.8661	UD
Hs.471508	NM_005544	IRS1	UD	0.0288	UD	7.8309	UD	UD	UD	UD	1.1647	UD
Hs.626544	NM_000214	JAG1	0.2262	0.0677	0.2769	0.1296	0.0302	0.5548	0.0124	0.4575	1.7573	1.7471
Hs.508234	NM_001730	KLF5	UD	0.1138	UD	UD	UD	UD	UD	UD	1.1647	UD
Hs.300559	NM_014708	KNTC1	0.8803	3.0189	0.95	1.0792	0.7792	0.9091	0.863	0.366	1.014	1.3036
Hs.594238	NM_002266	KPNA2	0.9767	UD	UD	UD	UD	UD	UD	UD	UD	UD
Hs.743478	NM_016269	LEF1	0.0535	0.0363	0.1086	0.0651	0.4861	0.13	0.015	UD	0.4108	0.7474
Hs.162757	NM_002332	LRP1	0.422	0.0014	0.0057	184.7186	1.7892	0.2813	0.0059	UD	4.7349	0.2689
Hs.591697	NM_002358	MAD2L1	1.0614	1.0454	0.725	0.5212	0.4353	0.4097	0.6632	0.4601	0.9266	0.4974
Hs.19400	NM_006341	MAD2L2	0.9767	UD	UD	0.2952	2.8284	UD	1.1388	0.7792	UD	UD
Hs.477481	NM_004526	MCM2	0.16	UD	0.3753	UD	0.2872	0.5596	0.6231	0.2031	0.0928	0.0355
Hs.179565	NM_002388	MCM3	0.1255	UD	0.084	UD	0.5396	0.3849	0.0379	0.2415	0.0266	7.7409
Hs.460184	NM_005914	MCM4	0.8803	0.286	0.8156	1.0943	0.2466	0.3304	1.4717	0.7684	1.057	0.8025
Hs.517582	NM_006739	MCM5	0.7989	2.7019	0.725	0.5035	0.1233	0.2487	0.7887	0.0866	1.1251	0.7133
Hs.733536	NM_002392	MDM2	0.8742	0.4245	0.9369	0.2192	1.1728	2.9949	1.0774	2.9282	3.1602	1.0371
Hs.132966	NM_000245	MET	0.0321	0.04	0.0656	0.0541	UD	0.1469	UD	UD	0.0766	UD
Hs.80976	NM_002417	MKI67	0.7402	UD	0.6012	0.1895	0.3186	0.4771	0.7565	0.2892	0.1022	0.9091
Hs.513617	NM_004530	MMP2	0.09	0.0669	UD	0.0738	UD	0.0601	0.0079	UD	5.278	UD
Hs.2256	NM_002423	MMP7	0.7098	0.5841	0.1505	0.2283	0.1947	0.6752	0.001	1.1423	0.8868	0.044
Hs.297413	NM_004994	MMP9	0.0337	0.0539	0.0484	0.0311	0.3013	0.0222	0.0017	0.2683	0.0913	1.7053
Hs.509523	NM_002431	MNAT1	0.9369	UD	0.5848	0.0954	0.8645	0.1607	0.9122	0.3585	1.2924	1.3779
Hs.192649	NM_005590	MRE11A	0.9767	UD	UD	UD	UD	UD	1.9554	1.3379	UD	UD
Hs.202453	NM_002467	MYC	UD	0.5301	UD	0.2551	0.0144	1.154	0.4531	0.3396	3.4263	1.21
Hs.635882	NM_024865	NANOG	1.032	3.4444	3.4046	3.6787	UD	UD	UD	UD	0.3353	UD
Hs.492208	NM_002485	NBN	1.1297	0.1343	0.8621	UD	0.483	0.8781	1.0479	1.366	1.0718	0.7751
Hs.21422	NM_005010	NRCAM	UD	0.2065	UD	0.3207	UD	0.088	0.0047	0.0826	1.2311	UD
Hs.653996	NM_003873	NRP1	0.3725	1.6751	UD	UD	3.225	0.6127	UD	0.7589	6.3203	0.3276
Hs.712776	NM_006180	NTRK2	UD	UD	UD	UD	UD	UD	UD	UD	1.1647	UD
Hs.74615	NM_006206	PDGFRA	0.601	5.1846	0.9379	0.5209	UD	0.1124	0.0033	UD	0.4741	0.5396
Hs.738484	NM_000325	PITX2	UD	UD	UD	UD	UD	UD	UD	UD	1.1647	UD
Hs.466871	NM_002659	PLAUR	1.2883	3.9841	1.6673	0.4861	6.2303	0.0777	0.1464	0.116	0.459	4.84
Hs.249184	NM_002701	POU5F1	UD	UD	UD	4.4358	UD	UD	UD	UD	1.1647	UD
Hs.619002	NM_003713	PPAP2B	UD	UD	UD	UD	0.3163	0.1387	0.0157	0.3492	2.7195	0.7658
Hs.696032	NM_006238	PPARD	UD	UD	0.0939	UD	UD	UD	UD	UD	1.1647	UD
Hs.494538	NM_000264	PTCH1	UD	0.0946	0.6188	0.0229	UD	UD	UD	0.0094	0.3008	UD

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Hs.196384	NM_000963	PTGS2	0.5379	8.0235	UD	0.1615	UD	0.0526	0.0067	0.0975	0.3057	UD
Hs.38114	NM_002853	RAD1	1.1455	UD	0.7351	UD	0.8645	0.6384	0.925	0.5946	1.0867	UD
Hs.16184	NM_002873	RAD17	0.9767	UD	UD	UD	UD	UD	UD	UD	UD	UD
Hs.631709	NM_002875	RAD51	0.0778	7.1305	0.1273	UD	0.6029	0.9028	0.7157	0.2031	0.6974	1.0299
Hs.655354	NM_004584	RAD9A	0.5494	UD	1.43	UD	0.2415	1.1192	1.1231	0.5824	0.8351	1.0886
Hs.408528	NM_000321	RB1	0.8864	UD	1.1777	UD	0.4475	0.7539	0.9576	0.3015	1.3195	0.7539
Hs.546282	NM_002894	RBBP8	1.0112	0.0862	1.7605	0.3164	2.2974	1.0157	0.9122	0.3035	1.1728	1.0157
Hs.207745	NM_002895	RBL1	0.7989	0	1.1859	UD	0.6926	UD	1.2462	0.8526	UD	UD
Hs.513609	NM_005611	RBL2	1.0762	0.1343	1.9534	UD	0.7371	1.2248	1.1388	0.5864	1.5263	0.8137
Hs.535845	NM_004348	RUNX2	0.0435	0.0128	0.06	0.171	0.1804	0.1202	0.0118	UD	0.159	2.7606
Hs.269898	NM_013376	SERTAD1	1.2193	0.1343	1.2977	UD	0.6113	0.2557	1.3264	0.9075	UD	0.7435
Hs.481022	NM_003013	SFRP2	UD	0.1162	UD	5.8937	UD	UD	0.0232	UD	1.1647	UD
Hs.633506	NM_005982	SIX1	UD	UD	UD	UD	0.0785	0.1116	0.0224	UD	0.7055	3.9862
Hs.23348	NM_005983	SKP2	0.761	UD	0.9434	UD	0.1406	1.6161	1.0924	0.4033	1.5583	0.6609
Hs.437846	NM_005631	SMO	UD	0.4844	8.739	UD	UD	0.0856	0.0158	UD	3.1602	UD
Hs.732963	NM_003106	SOX2	UD	UD	UD	UD	132481 84	0.0778	0.0038	0.1209	1.0994	UD
Hs.647409	NM_000346	SOX9	UD	UD	UD	UD	0.2397	0.1312	0.0253	0.4938	0.7882	3.5677
Hs.209983	NM_005563	STMN1	0.95	UD	0.3406	UD	0.2872	0.3957	0.5577	0.155	0.5664	0.6428
Hs.742027	NM_003181	T	UD	UD	UD	UD	29.026 3	UD	UD	0.0584	1.1647	UD
Hs.605153	NM_003199	TCF4	UD	UD	UD	0.0332	UD	0.4313	0.0358	UD	0.3407	0.3523
Hs.573153	NM_003202	TCF7	UD	UD	UD	1.3279	0.0665	0.1034	0.0747	0.2135	0.5359	6.8448
Hs.516297	NM_031283	TCF7L1	UD	1.7829	UD	UD	UD	0.1586	0.0341	UD	1.1647	UD
Hs.593995	NM_030756	TCF7L2	1.1451	0.4396	UD	0.5984	1.6237	0.3128	0.0664	0.4803	1.1408	2.6208
Hs.79353	NM_007111	TFDP1	0.6399	UD	UD	0.1183	0.6974	UD	UD	UD	UD	UD
Hs.379018	NM_006286	TFDP2	1.5011	UD	UD	UD	0.7022	0.2289	0.8751	0.6285	1.9185	0.5519
Hs.592317	NM_003239	TGFB3	UD	UD	UD	0	0.678	0.1557	0.0042	0.6426	0.0256	0.2963
Hs.689805	NM_005077	TLE1	UD	UD	2.1103	UD	0.9008	1.3013	0.0314	0.1652	5.7624	0.5824
Hs.740601	NM_000546	TP53	0.0869	0	0.1452	4.06E+ 09	0.1672	0.6252	0.023	17.387 8	0.0684	0.0333
Hs.644998	NM_000474	TWIST1	UD	UD	UD	UD	UD	0.0534	0.2346	0.0288	0.4698	UD
Hs.73793	NM_003376	VEGFA	UD	UD	UD	UD	3.225	1.2483	0.0525	0.1652	3.6808	3.3404
Hs.249441	NM_003390	WEE1	0.9767	UD	UD	0.1119	1.5911	UD	1.1789	0.8066	UD	UD
Hs.492974	NM_003882	WISP1	UD	UD	UD	UD	327324 7	UD	UD	UD	1.1647	UD
Hs.592145	NM_003881	WISP2	UD	UD	UD	UD	UD	UD	UD	UD	1.1647	UD
Hs.336930	NM_033131	WNT3A	UD	UD	UD	UD	UD	UD	UD	UD	1.1647	UD
Hs.643085	NM_003392	WNT5A	UD	UD	UD	UD	UD	UD	UD	UD	1.1647	UD
Hs.149504	NM_003395	WNT9A	UD	UD	UD	0.7574	UD	0.1066	0.0082	UD	0.9659	UD

Supplementary Table 5

Unigene	Refseq	Symbol	C-59 vs Vehicle		ICG001 vs Vehicle	
			Fold change	P value	Fold change	P value
Rn.154810	NM_133401	Abcb1a	-2.5555	0.075025	-6.5847	0.000145
Rn.91370	NM_013149	Ahr	-3.7307	0.004575	-7.0687	0.000229
Rn.119611	NM_199115	Angptl4	-15.3069	0.018568	-1.251	0.667996
Rn.41192	NM_001044249	Antxr1	-10.2279	0.000916	-11.2624	0.000202
Rn.162212	NM_024355	Axin2	-5.6351	0.000085	-3.9352	0.000081
Rn.9722	NM_013414	Bglap	2.093	0.514485	-2.2712	0.256089
Rn.54471	NM_022274	Birc5	-3.5974	0.038852	-2.972	0.024898
Rn.10318	NM_012827	Bmp4	-563.3071	0.019822	-6.4925	0.020684
Rn.21800	NM_001007148	Btrc	-2.8143	0.041023	-6.8961	0.000007
Rn.206369	NM_175595	Cacna2d3	-2.0131	0.341728	-5.6078	0.152076
Rn.22279	NM_171992	Ccnd1	-2.9254	0.015406	-3.4946	0.001006
Rn.96083	NM_022267	Ccnd2	-1.8783	0.168274	-2.8215	0.01193
Rn.1120	NM_012924	Cd44	-5.4969	0.013002	-5.1519	0.010769
Rn.1303	NM_031334	Cdh1	-1.2544	0.869302	-4.9569	0.000037
Rn.48717	NM_031550	Cdkn2a	-3.9343	0.115286	-1.8857	0.190719
Rn.10818	NM_017358	Cdon	-1.6889	0.253346	-2.6724	0.000172
Rn.202620	NM_013154	Cebpd	1.855	0.319229	-1.7437	0.370655
Rn.17145	NM_022266	Ctgf	-8.4334	0.008115	-6.5211	0.003577
Rn.3236	NM_053332	Cubn	-3.3681	0.277453	-3.5986	0.223937
Rn.161784	NM_024159	Dab2	-5.0377	0.000267	-4.0919	0.000095
Rn.214343	NM_001106350	Dkk1	-7.7469	0.290882	-13.7096	0.234986
Rn.14547	NM_053744	Dlk1	-11.4672	0.207758	-3.8784	0.192736
Rn.217077	NM_001012205	Dpp10	-9.8226	0.390508	-24.203	0.287647
Rn.44398	NM_017089	Efnb1	-1.6724	0.064258	-1.8081	0.024947
Rn.37227	NM_031507	Egfr	-1.2645	0.817566	-4.4325	0.02453
Rn.9096	NM_012551	Egr1	-14.2242	0.14966	-5.7111	0.133359
Rn.20403	NM_057104	Enpp2	1.2958	0.239544	1.1784	0.436179
Rn.164554	NM_001107107	Ets2	-1.4015	0.869072	-3.6262	0.000048
Rn.64492	NM_023961	Fgf20	-466.8918	0.195369	-151.0042	0.145462
Rn.81223	NM_053809	Fgf4	-150.6731	0.245903	-79.0546	0.191307
Rn.98842	NM_022182	Fgf7	-3.7915	0.011545	-3.6624	0.005399
Rn.25174	NM_012952	Fgf9	-15.7554	0.006404	-8.3038	0.004564

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Rn.1604	NM_019143	Fn1	-1.8091	0.001832	-2.4112	0
Rn.11306	NM_012953	Fosl1	-7.8369	0.114307	-20.905	0.092314
Rn.162557	NM_012561	Fst	1.0297	0.935657	-2.4196	0.085727
Rn.127822	XM_001066344	Gdf5	-38.6379	0.262325	-77.4635	0.20496
Rn.53970	NM_019139	Gdnf	-1.9603	0.164434	-3.425	0.069475
Rn.10346	NM_012567	Gja1	1.2973	0.184123	-1.3598	0.18748
Rn.3272	NM_013060	Id2	-4.556	0.000247	-5.8962	0.000025
Rn.6282	NM_178866	Igf1	2.2877	0.02751	-1.6831	0.011408
Rn.118681	NM_031511	Igf2	-17.1715	0.08905	-6.5181	0.075083
Rn.9873	NM_012589	Il6	-10.2931	0.011367	-4.9455	0.163558
Rn.10476	NM_012969	Irs1	-4.0286	0.000201	-3.4337	0.000113
Rn.88804	NM_019147	Jag1	-6.8185	0.006921	-7.5341	0.002846
Rn.8954	NM_053394	Klf5	-4.5298	0.028456	-6.7386	0.017504
Rn.21926	NM_130429	Lef1	-18.9432	0.175831	-13.3624	0.132224
Rn.22436	XM_243524	Lrp1	-2.6733	0.041438	-4.0086	0.000083
Rn.10617	NM_031517	Met	-8.448	0.000502	-3.2992	0.000715
Rn.6422	NM_031054	Mmp2	-1.25	0.530223	-1.9419	0.022118
Rn.10282	NM_012864	Mmp7	-1.3902	0.330346	-4.1606	0.172987
Rn.10209	NM_031055	Mmp9	-5.3219	0.008932	-18.9542	0.001417
Rn.12072	NM_012603	Myc	-28.3173	0.00005	-8.8465	0.000021
Rn.124668	NM_001100781	Nanog	-98.379	0.44224	-60.3707	0.384795
Rn.10691	NM_013150	Nrcam	-1.5434	0.262963	-2.509	0.013946
Rn.10815	NM_145098	Nrp1	-4.0801	0.009896	-1.8354	0.052216
Rn.11246	NM_012731	Ntrk2	-35.3902	0.236826	-13.1481	0.199338
Rn.55127	NM_012802	Pdgfra	-9.4498	0.000597	-1.9209	0.028372
Rn.17591	NM_019334	Pitx2	-9.4552	0.38671	-5.0076	0.334277
Rn.82711	NM_017350	Plaur	-4.2583	0.004162	-9.1882	0.000013
Rn.161748	NM_001009178	Pou5f1	-4.4674	0.133788	-6.5999	0.073488
Rn.12038	NM_138905	Ppap2b	3.7487	0.424514	2.1778	0.276632
Rn.96181	NM_013141	Ppard	-24.8088	0.00007	-14.348	0.000018
Rn.105585	NM_053566	Ptch1	-5.4212	0.001361	-3.9044	0.000873
Rn.44369	NM_017232	Ptgs2	-4.017	0.061162	-6.131	0.020773
Rn.214214	NM_053470	Runx2	-5.3869	0.000785	-8.047	0.000108
Rn.102416	NM_001100700	Sfrp2	-3.5213	0.286129	-2.3491	0.250492

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Rn.23396	NM_053759	Six1	-64.1604	0.334918	-17.043	0.284974
Rn.44429	NM_012807	Smo	-1.6155	0.113617	-3.9681	0.004683
Rn.219221	NM_001109181	Sox2	-28.4813	0.353291	-44.5837	0.28744
Rn.95086	XM_001081628	Sox9	-8.4431	0.00061	-5.6717	0.000212
Rn.218650	NM_001106209	T	-22.346	0.406381	-6.2525	0.381353
Rn.33103	NM_001107865	Tcf3	-4.8605	0.000408	-9.8363	0.000003
Rn.23354	NM_053369	Tcf4	-2.4914	0.09178	-6.8279	0.000105
Rn.106335	XM_343891	Tcf7	-6.4024	0.118477	-7.5063	0.068855
Rn.105849	XM_001054844	Tcf7l2	-8.034	0.001652	-11.0587	0.000217
Rn.7018	NM_013174	Tgfb3	-2.0926	0.133276	-5.6014	0.000143
Rn.6875	XM_342851	Tle1	-2.4571	0.01031	-2.4376	0.014902
Rn.161904	NM_053530	Twist1	-2.4051	0.328487	-6.9746	0.017812
Rn.1923	NM_031836	Vegfa	-7.7962	0.000507	-17.6156	0.000024
Rn.63486	NM_031716	Wisp1	-6.8937	0.400341	-4.4438	0.41784
Rn.53991	NM_031590	Wisp2	-2.226	0.129883	-13.8849	0.005902
Rn.218621	NM_001107005	Wnt3a	-33.6751	0.206538	-17.1497	0.166711
Rn.48749	NM_022631	Wnt5a	-4.7577	0.062036	-2.3291	0.083822
Rn.40411	NM_001105783	Wnt9a	-9.0648	0.096383	-4.7167	0.080884

Supplementary Table 6

Antibodies used in this study		
Antigen		
aSMA	Sigma	A2547
Bcl9	AbCam	ab37305
BIRC5	AbCam	ab8228
Ccnd2	AbCam	ab3085
CD163	AbD Serotech	MCA2311GA
CD68	AbD Serotech	MCA341R
Ctnnb1	BD biosciences	610154
Ctnnb1 Active	Millipore	05-665
GFP	AbCam	ab13970
Ki67	Lica	6019624
Krt19	Cell Applications Inc	CP10405
Lef1	Novus Biologicals	NBP-86960
c-MYC	Santa Cruz Biotech Inc	sc-764
Rspo1	R&D Systems	AF3474
Survivin	VWR International	ABCAAB24479
TUNEL	Roche	11684795910
Wnt7b	Novus Biologicals	NBP-59564
Primers Used in this study		
Human		
CCND2	Qiagen	QT00057575
BAX1	Qiagen	QT00031192
BIRC5	Qiagen	QT00081186
LEF1	Qiagen	QT00021133
WNT10A	Qiagen	QT00205632
WNT7B	Qiagen	QT00088354
Mouse		
Lef1	Qiagen	QT00148834
Axin2	Qiagen	QT00126539
Wnt7b	Qiagen	QT00168812
Wnt10a	Qiagen	QT00110089
Rat		
Axin2	Qiagen	QT00184184
Bcl9	Qiagen	QT00390383
Birc5	Qiagen	QT00416010
Ccnd2	Qiagen	QT00432705
Ccne	Qiagen	QT01625036
Porcn	Qiagen	QT00421078
Rnf43	Qiagen	QT00438865
Rspo1	Qiagen	QT01295728
Wn7tb	Qiagen	QT00454965
Wnt10a	Qiagen	QT00379953