

# ***Supplemental data for “Virus Genotype-Dependent Transcriptional Alterations in Lipid Metabolism and Inflammation Pathways in the Hepatitis C Virus-infected Liver”***

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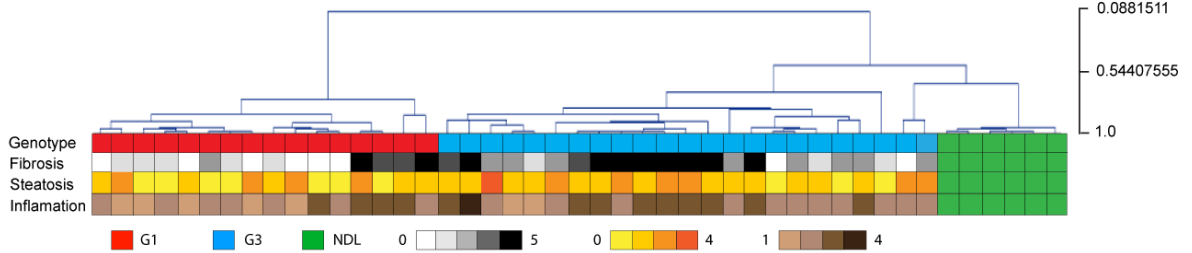
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## **Correspondence**

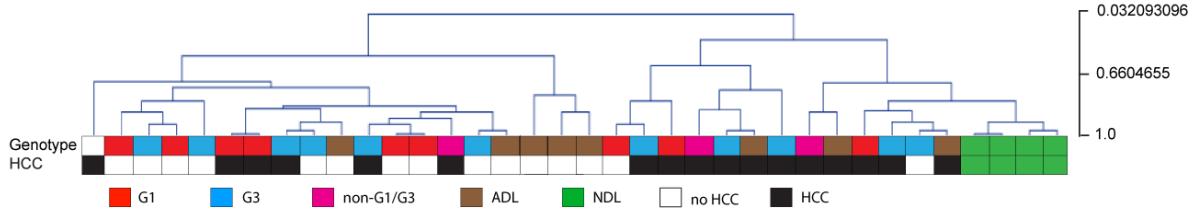
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# Supplementary Figure 1

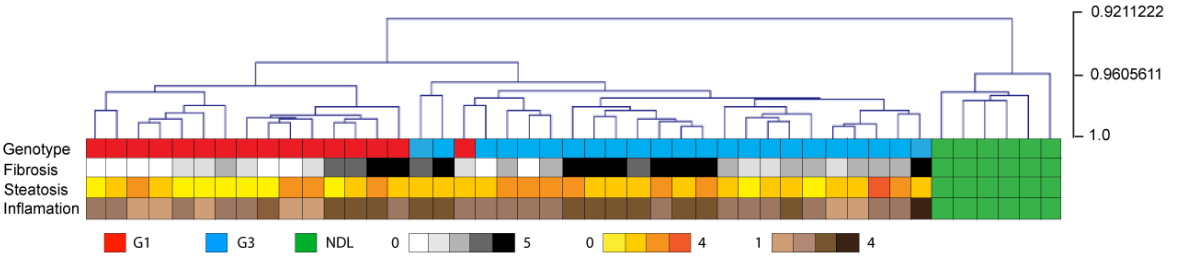
## A Non-negative matrix factorisation



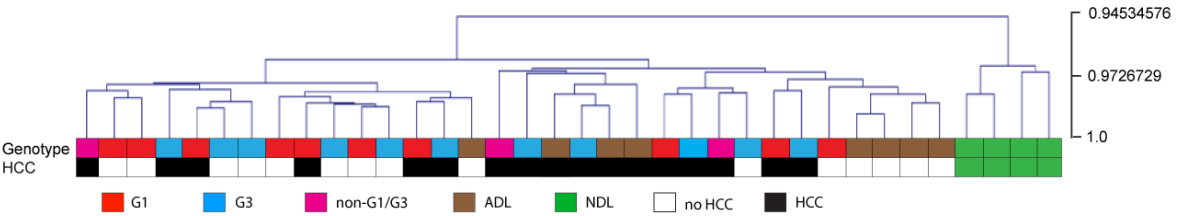
## B



## C Hierarchical Clustering

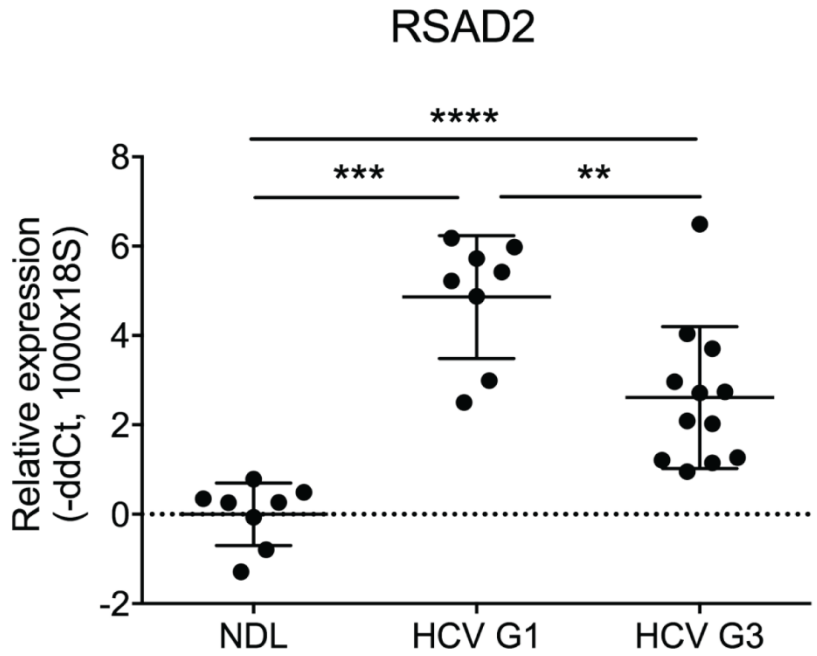


## D

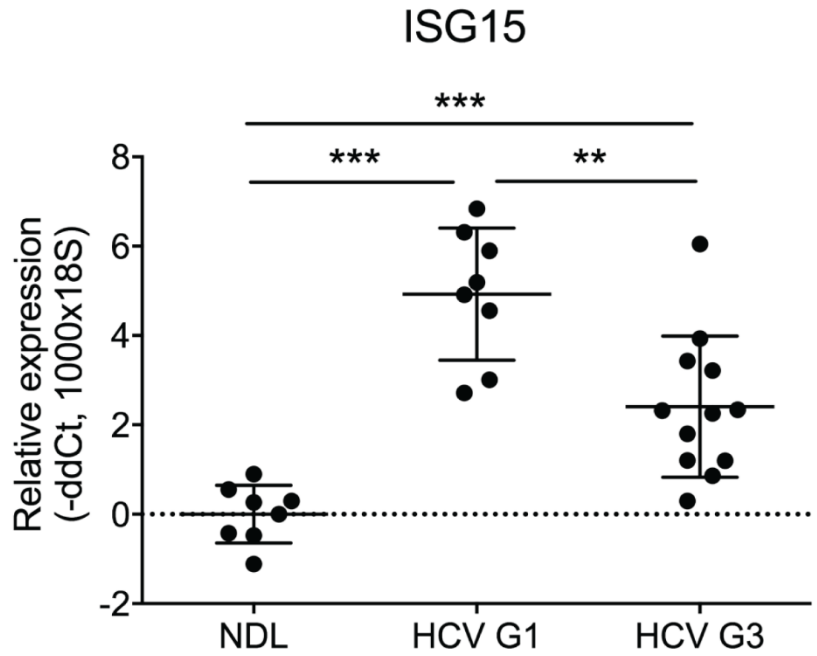


Supplementary Figure 2

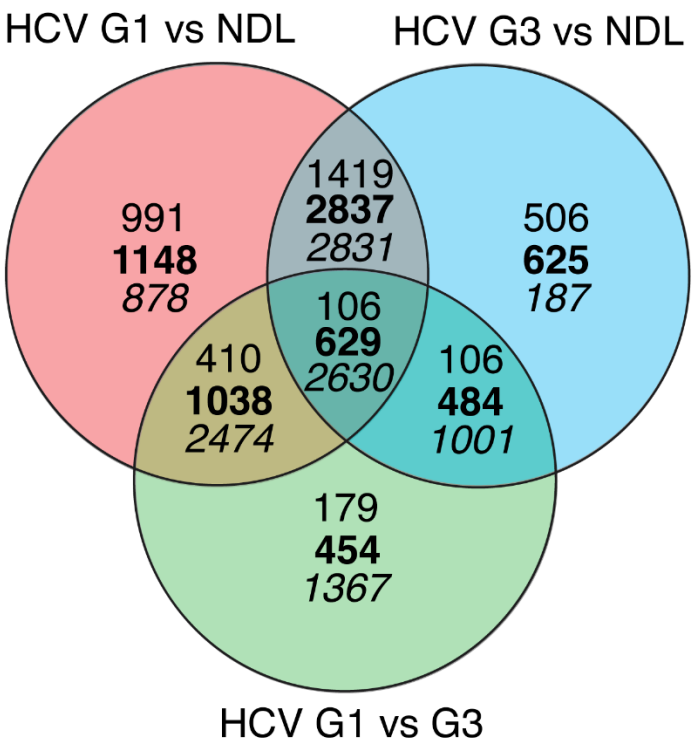
A



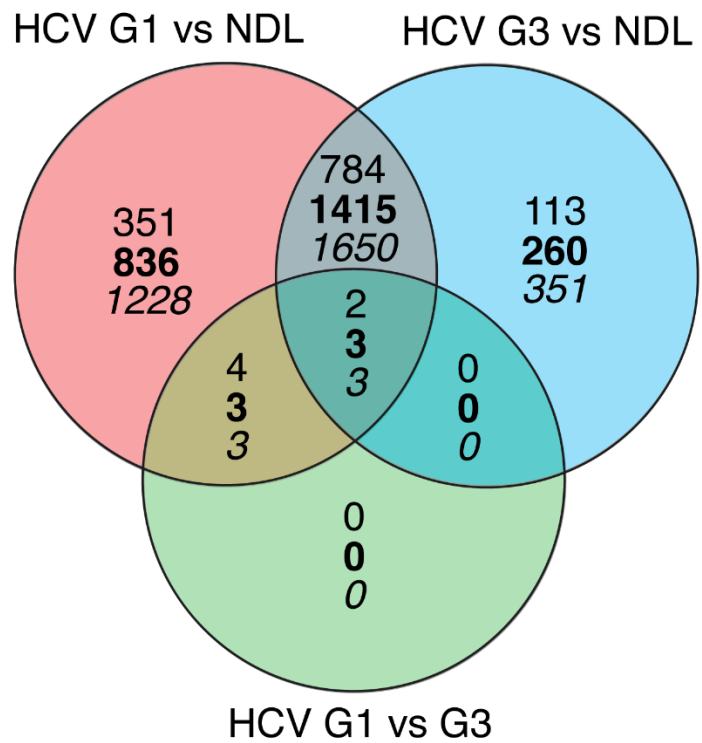
B



**A** Progressive Liver Injury



**B** Advanced Liver Injury



Normal      > 2-fold  
**Bold**      > 1.5-fold  
*Italics*      No cut-off

## Supplementary Figure legends

### Supplementary Figure 1 – Unsupervised analysis of liver genes expression in HCV liver injury

Non-negative matrix factorisation (A-B) and hierarchical clustering (C-D) of the whole liver gene expression profiles of HCV-induced progressive liver injury (A, C) and advanced liver injury (B, D). In progressive liver injury (A, C) 3 groups shows distinct separation: patients infected with HCV Genotype 1 (red); genotype 3 (blue) and non-diseased liver (green). This separation is not observed in advanced liver injury (B, D).

### Supplementary Figure 2 – ISGs are upregulated in HCV-infected tissues

Taqman qRT-PCR validation of interferon stimulated genes RSAD2 and ISG15 in progressive HCV-induced liver disease comparing genotype 1 (HCV G1, n=8), genotype 3 (HCV G3, n=12), and non-diseased liver (NDL, n=8); Mann-Whitney *U*-test; \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ .

### Supplementary Figure 3 - Overlap of differentially expressed genes between non-diseased livers (NDL) and livers from patients infected with HCV genotype 1 (HCV G1) or genotype 3 (HCV G3)

Venn diagrams show the overlap of differentially expressed liver genes in HCV-induced progressive (A) and advanced (B) liver injury. Numbers refer to genes thresholded with a fold change of >2 (normal font), of >1.5 (bold), and with no threshold (italics).

## Supplementary Tables

**Supplementary Table 1 – Top 100 up- and down-regulated genes in progressive HCV liver injury (HCV genotype 3 vs genotype 1).**

Increased expression in HCV genotype 3				Decreased expression in HCV genotype 3		
Rank	Gene symbol	Fold Change	p-value*	Gene symbol	Fold Change	p-value*
1	STMN2	4.61	0.031	CROP	-14.68	<0.001
2	MMP7	4.22	<0.001	ASCL1	-14.36	0.042
3	ACTG2	4.01	0.478	C1orf63	-14.08	<0.001
4	AKR1B10	3.95	0.379	PILRB	-13.75	<0.001
5	CLOCK	3.85	<0.001	AFAR3	-13.40	<0.001
6	SPINK1	3.68	0.164	AHSA2	-11.36	<0.001
7	HLA-DQB2	3.67	0.017	RAPH1	-11.31	<0.001
8	IGJ	3.53	<0.001	CDK5RAP3	-10.32	<0.001
9	SAA2	3.45	0.053	DNAH1	-10.25	<0.001
10	C15orf48	3.42	<0.001	GSDML	-9.23	<0.001
11	RBM43	3.37	<0.001	FAM99A	-9.00	<0.001
12	CLDN11	3.30	<0.001	NKTR	-8.59	<0.001
13	SCGB3A1	3.24	0.006	CAPN12	-8.13	<0.001
14	SAA1	3.20	0.070	LOC440354	-8.11	<0.001
15	CTSG	3.20	<0.001	WDR33	-8.07	<0.001
16	COL1A1	3.12	<0.001	HAPLN4	-7.87	<0.001
17	SPP1	3.11	0.012	RBM33	-7.76	<0.001
18	ITM2A	3.05	<0.001	LOC440993	-7.68	<0.001
19	MYH11	3.05	0.026	PLA2G4B	-7.36	<0.001
20	THY1	2.97	<0.001	ATHL1	-7.28	<0.001
21	TMEM119	2.93	<0.001	PRPF4B	-7.25	<0.001
22	CD24	2.91	0.012	LOC285908	-6.85	<0.001
23	CLDN10	2.87	<0.001	PNN	-6.82	<0.001
24	FCER1A	2.86	<0.001	LOC387601	-6.74	<0.001
25	MOXD1	2.82	0.012	NSUN5C	-6.71	<0.001
26	LYZ	2.81	0.007	CHRD	-6.54	<0.001
27	CTSC	2.81	<0.001	C6orf111	-6.39	<0.001
28	FABP4	2.80	<0.001	LOC149134	-6.37	<0.001
29	ENTPD1	2.80	<0.001	LRCH4	-6.33	<0.001
30	S100A11	2.76	<0.001	LRP5L	-6.31	<0.001
31	HLA-DPB1	2.73	<0.001	SCNN1D	-6.21	<0.001
32	NTS	2.73	<0.001	SMG1	-6.18	<0.001
33	CTHRC1	2.73	<0.001	C20orf59	-6.16	<0.001
34	TIMD4	2.71	<0.001	AFG3L1	-6.16	<0.001
35	LCN2	2.69	<0.001	HEMK1	-6.01	<0.001
36	CXCR3	2.68	<0.001	NPHP3	-5.87	<0.001
37	SPON1	2.68	0.012	MAPK8IP3	-5.67	<0.001
38	CD248	2.66	<0.001	LOC440503	-5.60	<0.001
39	GPC4	2.64	<0.001	WBSCR14	-5.54	<0.001

40	QPCT	2.62	<0.001	CRYGS	-5.48	<0.001
41	RGS10	2.62	<0.001	KIAA1875	-5.42	<0.001
42	SAA1	2.62	0.042	ONECUT1	-5.30	<0.001
43	TIMP2	2.61	<0.001	ZDHC11	-5.25	<0.001
44	SLAMF8	2.61	<0.001	C1orf188	-5.24	<0.001
45	KLRB1	2.61	<0.001	HNRPD	-5.23	<0.001
46	KRT19	2.59	<0.001	NPIP	-5.07	<0.001
47	GLIPR1	2.58	<0.001	LOC440348	-5.02	<0.001
48	FHL2	2.57	<0.001	CAPN3	-4.86	<0.001
49	FBLN1	2.57	<0.001	IFRD1	-4.86	<0.001
50	VPS24	2.56	<0.001	GABBR1	-4.85	<0.001
51	FPR1	2.56	<0.001	MRPS25	-4.82	<0.001
52	GAS1	2.54	<0.001	CCDC14	-4.81	<0.001
53	JAM2	2.53	<0.001	EPB41L5	-4.74	<0.001
54	DKK3	2.53	<0.001	XIST	-4.71	0.017
55	APOD	2.52	0.143	C9orf45	-4.70	<0.001
56	SMOC2	2.52	0.012	TRPV1	-4.70	<0.001
57	FXD2	2.52	<0.001	HSD17B3	-4.67	<0.001
58	ANXA2	2.51	<0.001	WSB1	-4.60	<0.001
59	COG5	2.50	<0.001	VAMP1	-4.59	<0.001
60	EMP1	2.50	0.007	CYP3A43	-4.58	<0.001
61	FAM26F	2.50	0.026	COL27A1	-4.56	<0.001
62	CD48	2.49	<0.001	C8orf46	-4.56	<0.001
63	RPS4Y1	2.49	<0.001	ATG16L2	-4.53	<0.001
64	IL8	2.48	0.266	DIDO1	-4.49	<0.001
65	RNASE6	2.48	<0.001	LOC88523	-4.49	<0.001
66	PRKCDP	2.48	<0.001	GCN5L2	-4.46	<0.001
67	DCN	2.48	<0.001	C1orf168	-4.45	<0.001
68	PLAC9	2.48	<0.001	FNBP4	-4.45	<0.001
69	LGALS3	2.46	<0.001	CCDC71	-4.43	<0.001
70	COL1A2	2.45	<0.001	KIFC2	-4.39	<0.001
71	KRT7	2.44	<0.001	ZNF789	-4.38	<0.001
72	OSTbeta	2.44	0.070	KLHDC1	-4.36	<0.001
73	DCN	2.44	<0.001	CLK1	-4.30	<0.001
74	NRXN2	2.43	0.006	MYH3	-4.29	<0.001
75	VTCN1	2.42	0.135	DMTF1	-4.27	<0.001
76	TSPAN13	2.42	<0.001	CRIPAK	-4.27	<0.001
77	PLAUR	2.42	<0.001	WDR27	-4.23	<0.001
78	PMEPA1	2.42	<0.001	RBM6	-4.18	<0.001
79	MMP9	2.41	0.070	NRBP2	-4.18	<0.001
80	CLIC6	2.41	0.044	SNORA70	-4.16	<0.001
81	CXCL6	2.40	0.017	RAB24	-4.14	<0.001
82	GPNMB	2.40	<0.001	TLL3	-4.12	<0.001
83	SPRY1	2.39	<0.001	NGFRAP1	-4.11	<0.001
84	CPA3	2.38	0.006	STAG3L1	-4.06	<0.001
85	EFEMP1	2.38	0.044	PHACS	-4.05	<0.001
86	EMP3	2.37	<0.001	PTBP2	-4.04	<0.001
87	PODN	2.37	<0.001	RAPH1	-3.97	<0.001
88	FRZB	2.35	<0.001	COL7A1	-3.97	<0.001

89	PLA2G7	2.35	<0.001	NFKBIZ	-3.96	<0.001
90	CCL4L1	2.34	<0.001	MGC33556	-3.93	<0.001
91	AIF1	2.33	<0.001	SFRS14	-3.93	<0.001
92	RNASE1	2.32	<0.001	XAF1	-3.92	<0.001
93	IGFBP6	2.32	<0.001	DDX17	-3.87	<0.001
94	CLDN10	2.32	<0.001	INDOL1	-3.87	<0.001
95	HSPB8	2.32	<0.001	C17orf55	-3.85	<0.001
96	EGR1	2.32	0.053	TDRD6	-3.84	<0.001
97	SYT13	2.32	0.031	MT1E	-3.82	<0.001
98	CST7	2.31	<0.001	SLC25A27	-3.82	<0.001
99	FBLN1	2.31	0.007	JOSD3	-3.75	<0.001
100	NQO1	2.31	0.012	FAM76B	-3.74	<0.001

\* FDR adjusted p-value (Benjamini-Hochberg)