

**Supplementary Table 1. Logistic regression analysis of factors associated with production of HCV Core-E2 sequence data for participants with HCV RNA positive samples.**

Characteristic	Overall	Sequencing result			Multivariate		
		No	Yes	<i>P</i> -value	Odds ratio	95% CI	<i>P</i> -value
Total <i>n</i> (%)	(n= 1,012)	(n= 247)	(n= 765)				
<b>Age (mean (SD))</b>	35.4 (8.5)	32.6 (8.4)	36.3 (8.4)	<0.001			
<b>Age &lt;40 (vs. ≥40 years)</b>	701 (69%)	195 (79%)	406 (66%)	<0.001			
<b>HIV infection (vs. none)</b>	243 (24%)	55 (22%)	188 (25%)	0.460			
<b>Recent HCV seroconversion (vs. not)</b>	63 (6%)	16 (6%)	47 (6%)	0.850			
<b>Sample volume</b>							
≤200ul	260 (26%)	82 (33%)	178 (23%)	<0.001	Ref	-	-
>200 - 500ul	311 (31%)	60 (24%)	251 (33%)		1.95	1.12 - 3.39	0.018
>500ul	441 (44%)	105 (43%)	336 (44%)		2.61	1.46 - 4.65	0.001
<b>HCV RNA viral load (mean (SD)), log IU/mL</b>							
≤1,000	76 (8%)	75 (30%)	1 (0.1%)	<0.001			
>1,000 - ≤10,000	84 (8%)	78 (32%)	6 (1%)				
>10,000	852 (84%)	94 (38%)	758 (99%)				
<b>Sample collected in 1996 (vs. collected after 1996)</b>	593 (59%)	126 (51%)	467 (61%)	0.005	2.18	1.32 - 3.60	0.002

Percentages indicate column percentage. Abbreviations: HIV = human immunodeficiency virus; HCV hepatitis C virus.

**Supplementary Table 2: Characteristics of pairs/clusters by increasing genetic distance threshold using ClusterPicker software.**

	Genetic distance threshold			
	0.02	0.035	0.05	0.065
Number clusters				
1a	11	25	37	41
3a	11	20	24	24
Mean cluster size				
1a	2.00	2.44	2.46	2.51
3a	2.18	2.35	2.71	3.54
Mean genetic distance				
1a	0.013	0.021	0.029	0.032
3a	0.011	0.021	0.030	0.036

**Supplementary Table 3: Logistic regression analysis of factors associated with being in a pair/cluster by increasing genetic distance threshold using ClusterPicker software.**

	Genetic distance threshold											
	0.02			0.035			0.05			0.065		
	Odds Ratio	P-value	95% CI	Odds Ratio	P-value	95% CI	Odds Ratio	P-value	95% CI	Odds Ratio	P-value	95% CI
<b>Age ≥40 years</b>	0.34	0.013	0.14 - 0.80	0.56	0.028	0.34 - 0.94	0.61	0.028	0.39 - 0.95	0.57	0.009	0.38 - 0.87
<b>Recent HCV seroconversion (vs. not)</b>	-	-	-	3.08	0.007	1.36 - 6.98	3.04	0.005	1.40 - 6.59	2.56	0.018	1.17 - 5.58
<b>HCV G3a (vs. G1a)</b>	2.55	0.005	1.33 - 4.89	-	-	-	-	-	-	1.86	0.002	1.26 - 2.73
<b>HIV infection (vs. none)</b>	2.72	0.003	1.42 - 5.20	1.92	0.008	1.19 - 3.09	1.82	0.006	1.18 - 2.81	1.64	0.022	1.07 - 2.51
<b>Syringe borrowing (vs. none)<sup>†</sup></b>	3.06	0.001	1.58 - 5.95	1.84	0.007	1.18 - 2.86	1.59	0.022	1.07 - 2.36	1.55	0.025	1.06 - 2.27
<b>Heroin injecting (vs. none)<sup>†</sup></b>	0.49	0.045	0.25 - 0.98	-	-	-	-	-	-	-	-	-

<sup>†</sup>in the last 6 months prior to enrolment. Abbreviations: HIV = human immunodeficiency virus; HCV hepatitis C virus.

**Supplementary Table 4. Characteristics of participants in a not in a pair/cluster and those in a pair/cluster according to PhyloPart or ClusterPicker definitions in the VIDUS cohort, 1996-2012, Vancouver, Canada (n=501).**

Characteristic	Overall (n=501)	PhyloPart		ClusterPicker	
		Not cluster (n = 310)	Pair/cluster (n = 191)	Not cluster (n = 345)	Pair/cluster (n=156)
<b>Total <i>n</i> (%)</b>					
<b>Female sex (vs. male sex)</b>	121 (24%)	71 (23%)	50 (26%)	78 (23%)	43 (28%)
<b>Age (mean (SD))</b>	36 (8)	37 (8)	35 (8)	37 (8)	35 (8)
<b>Age &lt; 40 years (vs. ≥40 years)</b>	340 (68%)	196 (63%)	144 (75%)	221 (64%)	119 (76%)
<b>High school education or higher (vs. less than high school)*</b>	91 (18%)	54 (17%)	37 (19%)	59 (17%)	32 (21%)
<b>Unstable housing (vs. stable)<sup>†</sup></b>	352 (70%)	217 (70%)	135 (71%)	246 (71%)	106 (68%)
<b>HCV Genotype 3a (vs. genotype 1a)</b>	190 (38%)	103 (34%)	85 (45%)	125 (36%)	65 (42%)
<b>Recent HCV seroconversion (vs. not)</b>	30 (6%)	14 (5%)	16 (8%)	15 (4%)	15 (10%)
<b>HIV infection (vs. none)</b>	131 (26%)	73 (24%)	58 (30%)	79 (23%)	52 (33%)
<b>Currently enrolled in methadone treatment (vs. yes)</b>	64 (13%)	44 (14%)	20 (10%)	47 (14%)	17 (11%)
<b>Syringe borrowing (vs. none)<sup>†</sup></b>	205 (41%)	117 (38%)	88 (46%)	130 (38%)	75 (48%)
<b>Crack use (vs. none)<sup>†</sup></b>	123 (25%)	78 (25%)	45 (24%)	88 (26%)	35 (22%)
<b>Cocaine injecting (vs. none)<sup>†</sup></b>	424 (85%)	256 (83%)	178 (93%)	286 (83%)	138 (88%)
<b>Heroin injecting (vs. none)<sup>†</sup></b>	370 (74%)	233 (75%)	137 (72%)	255 (74%)	115 (74%)
<b>Speedball injecting (vs. none)<sup>†</sup></b>	213 (43%)	125 (40%)	88 (46%)	140 (41%)	73 (47%)

Percentages indicate column percentages; \*At the time of enrolment; <sup>†</sup>in the last 6 months prior to enrolment. Abbreviations: HIV = human immunodeficiency virus; HCV hepatitis C virus.

**Supplementary Table 5. Characteristics of participants in a phylogenetic pair (n=2) and those in a cluster (n≥3) in the VIDUS cohort, 1996-2012, Vancouver, Canada (n=501).**

Characteristic	Overall	In pair <i>n</i> = 2	In cluster <i>n</i> ≥ 3	<i>P</i> -value
Total <i>n</i> (%)	( <i>n</i> = 156)	( <i>n</i> = 88)	( <i>n</i> = 68)	
<b>Female sex (vs. male sex)</b>	43 (28%)	23 (26%)	20 (29%)	0.650
<b>Age (mean (SD))</b>	35 (8)	35 (9)	34 (8)	0.752
<b>Age ≥40 years</b>	37 (24%)	22 (25%)	15 (22%)	0.668
<b>High school education or higher (vs. less than high school)*</b>	32 (21%)	19 (22%)	13 (19%)	0.739
<b>Unstable housing (vs. stable)<sup>†</sup></b>	106 (68%)	54 (61%)	52 (76%)	0.045
<b>Years injecting (median (IQR))</b>	13 (9)	13 (9)	13 (9)	0.684
<b>Recent HCV seroconversion (vs. not)</b>	15 (10%)	7 (8%)	8 (12%)	0.423
<b>HIV infection (vs. none)</b>	52 (33%)	31 (35%)	21 (31%)	0.568
<b>Currently enrolled in methadone treatment (vs. yes)</b>	17 (11%)	6 (7%)	11 (16%)	0.063
<b>Syringe borrowing (vs. none)<sup>†</sup></b>	75 (48%)	47 (53%)	28 (41%)	0.129
<b>Crack use (vs. none)<sup>†</sup></b>	35 (22%)	20 (23%)	15 (22%)	0.921
<b>Cocaine injecting (vs. none)<sup>†</sup></b>	138 (88%)	81 (92%)	57 (84%)	0.111
<b>Heroin injecting (vs. none)<sup>†</sup></b>	115 (74%)	60 (68%)	55 (81%)	0.074
<b>Speedball injecting (vs. none)<sup>†</sup></b>	73 (47%)	41 (47%)	32 (47%)	0.954

Percentages indicate column percentages; \*At the time of enrolment; <sup>†</sup>in the last 6 months prior to enrolment

## SUPPLEMENTARY INFORMATION

### **1. Sample preparation**

#### **Dilution standards:**

- A plasma sample previously determined to harbor  $14.9 \times 10^6$  IU/ml of HCV was serially diluted using Plasma Dilution Matrix to generate standards of 45000, 3000, and 200 IU/ml
- The plasma matrix control is: AcroMetrix® EDTA Plasma Dilution Matrix from Applied Biosystems (cat. Number: S2284).

#### **MagMax Extraction:**

- HCV RNA was extracted from the standards, plasma matrix and study samples using the MagMAX™-96 Viral RNA Isolation Kit (5 x 96 Reactions; cat. Number: AM1836; Life Technologies, Carlsbad, CA, USA) according to the manufacturer's instructions. Extraction was performed on a MagMax Express 96-extractor (Program: AM1836\_DW\_200\_Std).
- Sample volume extracted: 250 µl.
- Sample elution volume: 60 µl.
- 96-well plates containing extracted RNA were stored at -80°C.

### **2. Semi-quantitative HCV RNA PCR Protocol Details**

- HCV RNA was amplified using primers and probes derived from the following publication:  
Meng, S. and Li, J. (2010) A novel duplex real-time reverse transcriptase-polymerase chain reaction assay for the detection of hepatitis C viral RNA with armored RNA as internal control. *Virology Journal* 7:117.
- For each probe system (HCV\_Ap and HCV\_Bp) the reporter was 6FAM/ZEN and the quencher was Iowa Black.
- The primer and probe sequence used described in Table 2.1.
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**Table 2.1 – Primers and probes for semi-quantitative HCV RNA PCR**

Name	Sequence	Nucleotide position <sup>a</sup>
HCV_As	5'-GAGTAGTGTGGGTCGCGAA-3'	256 – 275
HCV_Aa	5'-GTGCACGGTCTACGAGACCTC-3'	320 – 340
HCV_Bs	5'-AGCGTCTAGCCATGGCGTTAGTAT-3'	74 – 97
HCV_Ba	5'-TCCTCGCAATTCGGGTGTACTC-3'	161 – 182
HCV_Ap	5'-CCTGATAGGGTGCTTGCGAGTGCC-3'	292 – 315
HCV_Bp	5'-CCCCCTCCCGGAGAGCCATAGT-3'	121 – 144

<sup>a</sup> denotes H-77 isolate position

- The samples and standards were loaded into a 96-well plate with the TaqMan® Fast Virus 1-Step Master Mix (cat. Number: 4444434; Life Technologies) described in Table 2.2. Plates were sealed with optical film, vortexed and centrifuged.

**Table 2.2 – Mastermix volumes for semi-quantitative HCV RNA PCR**

Semi-quantitative PCR		Each tube contains:		Stock solution		Volume/tube (µl)
<i>Reagents</i>	<i>Product source</i>	<i>Conc.</i>	<i>Unit</i>	<i>Conc.</i>	<i>Unit</i>	
Nuclease free H2O						4.80
TaqMan® Fast Virus 1-Step Master Mix	Applied Biosystems	1	x	4	x	5.00
HCV_As		400	nM	100	µM	0.04
HCV_Aa		400	nM	100	µM	0.04
HCV_Bs		400	nM	100	µM	0.04
HCV_Ba		400	nM	100	µM	0.04
HCV_Ap Probe		200	nM	100	µM	0.02
HCV_Bp Probe		200	nM	100	µM	0.02
MagMax extracted RNA						10.00
<b>Final reaction volume</b>		20 µl				

- Plates were loaded onto an ABI 7900HT Fast Real-Time PCR system, with the cycling parameters described in Table 2.3.

**Table 2.3 – Thermal cycling parameters for semi-quantitative HCV RNA PCR**

<i>Step</i>	<i>Temperature</i>	<i>Time</i>
Reverse transcription step (1X)	50°C	30 minutes
Deactivation step (1X)	95°C	20 seconds
Amplification	Melt	95°C
	anneal/extend	60°C

- The plate was analyzed using the automatic baseline and threshold setting calculations

### 3. Reverse transcription

- HCV complementary DNA (cDNA) was produced using SuperScript® VILO™ cDNA Synthesis Kit using random hexamers (cat. Number: 11754250, Life Technologies) and PolyMate Additive (BIO-37041, Bioline (Aust) Pty Ltd, Alexandria, NSW Australia), as described in Table 3.1.

**Table 3.1 – Mastermix volumes for reverse transcription**

Reverse transcription		Each tube contains:		Stock solution		Volume/tube (µl)
<i>Reagents</i>	<i>Product source</i>	<i>Conc.</i>	<i>Unit</i>	<i>Conc.</i>	<i>Unit</i>	
PolyMate Additive	Bioline			2	x	4.00
VILO Reaction Mix	Life Technologies	1	x	5	x	4.00
SuperScript Enzyme Mix	Life Technologies	1	x	10	x	2.00
RNA						10.00
<b>Final reaction vol</b>		20 µl				

- Plates were loaded onto an Applied Biosystems Veriti 96-Well Thermal Cycler, with the cycling parameters described in Table 3.2.

**Table 3.2 – Thermal cycling parameters for reverse transcription**

<i>Step</i>	<i>Temperature</i>	<i>Time</i>
Pre-heat	25°C	10 minutes
Reverse transcription	60°C	1 hour
Enzyme deactivation	85°C	5 minutes

- Samples with a viral load > 10 000 IU/mL by the semi-quantitative HCV RNA PCR (Section 2) but without Core-E2 and/or NS5B PCR products were repeated from RT step. Mastermix was prepared as described in Table 3.3 and cycling parameters described in Table 3.4.

**Table 3.3 – Mastermix volumes for reverse transcription repeat**

Reverse transcription		Each tube contains:		Stock solution		Volume/tube (µl)
<i>Reagents</i>	<i>Product source</i>	<i>Conc.</i>	<i>Unit</i>	<i>Conc.</i>	<i>Unit</i>	
NF H2O						4.00
VILO Reaction Mix	Life Technologies	1	x	5	x	4.00
SuperScript Enzyme Mix	Life Technologies	1	x	10	x	2.00
RNA						10.00
<b>Final reaction vol</b>		20 µl				

**Table 3.4 – Thermal cycling parameters for reverse transcription repeat**

<i>Step</i>	<i>Temperature</i>	<i>Time</i>
Pre-heat	25°C	10 minutes
Reverse transcription	42°C	2 hour
Enzyme deactivation	85°C	5 minutes



#### 4. Core – Envelope 2 (Core-E2) PCR

- HCV RNA was amplified using primers derived from the following publication:  
Lamoury F, Bartlett S, Jacka B, Wong A, Matthews G, Grebely J, Dore GJ, and Applegate T. (2013) Use of a novel sequence analysis method of the 5'UTR-HVR1 region for genotyping and molecular epidemiology of HCV in the ATAC study. *20th International Symposium on Hepatitis C Virus and Related Viruses*, Melbourne, Australia, October 6th-10th 2013.
- The primer sequences used are described in Table 4.1.

**Table 4.1 – Primers for Core-E2 PCRs**

Name	PCR round	Sequence	Nucleotide position <sup>a</sup>
HCVuniv134S22	1	5'- AGAGCCATAGTGGTCTGCGGAA-3'	134 – 155
HCVuniv1987A22	1	5'- TTCATCCABGTRCARCCRAACC-3'	1987 – 2008
HCVuniv278S22	2	5'- GCCTTGTTGGTACTGCCTGATAG-3'	278 – 299
HCVuniv1791A20	2	5'- GSGTARTGCCAGCARTANGG-3'	1791 – 1810

<sup>a</sup> denotes H-77 isolate position

- The cDNA samples and standards were loaded into a 96-well plate with the VELOCITY DNA Polymerase master mix (cat. Number: BIO-21099, Biorline) for PCR 1 described in Table 4.2. Plates were sealed with optical film, vortexed and centrifuged.

**Table 4.2 – Mastermix volume for Core-E2 PCR 1**

Core-E2 PCR 1		Each tube contains:		Stock solution		Volume/tube (µl)
Reagents	Product source	Amount	Unit	Conc.	Unit	
NF H2O						3.00
HI-FI buffer	Biorline	1	x	5	x	4.00
dNTP	Biorline	250	µM	25	mM	0.20
PolyMate Additive	Biorline	1	x	2	x	10.00
HCVuniv134S22	IDT	200	nM	20	µM	0.20
HCVuniv1987A22	IDT	400	nM	20	µM	0.40
VELOCITY polymerase	Biorline	0.2	x	20	x	0.20
cDNA						2.00
<b>Final reaction volume</b>		20	µl			

- Plates were loaded onto an Applied Biosystems Veriti 96-Well Thermal Cycler, with the cycling parameters for Core-E2 PCR 1 described in Table 4.3.

**Table 4.3 – Thermal cycling parameters for Core-E2 PCR 1**

<i>Step</i>	<i>Temperature</i>	<i>Time</i>
Pre-heat	98°C	2 minutes
Amplification (35x)	98°C	30 seconds
	60°C	30 seconds
	72°C	60 seconds
Final extension	72°C	10 minutes

- Amplicons from Core-E2 PCR 1 were loaded into a 96-well plate with the master mix for Core-E2 PCR 2 described in Table 4.4. Plates were sealed with optical film, vortexed and centrifuged.

**Table 4.4 – Mastermix volume for Core-E2 PCR 2**

Core-E2 PCR 2		Each tube contains:		Stock solution		Volume/tube (µl)
<i>Reagents</i>	<i>Product source</i>	<i>Amount</i>	<i>Unit</i>	<i>Conc.</i>	<i>Unit</i>	
NF H2O						6.00
HI-FI buffer	Bioline	1	x	5	x	8.00
dNTP	Bioline	250	µM	25	mM	0.40
PolyMate Additive	Bioline	1	x	2	x	20.00
HCVuniv278S22	IDT	200	nM	20	µM	0.40
HCVuniv1791A22	IDT	400	nM	20	µM	0.80
VELOCITY polymerase	Bioline	0.2	x	20	x	0.40
Core-E2 PCR 1 product						4.00
<b>Final reaction volume</b>		40	µl			

- Plates were loaded onto an Applied Biosystems Veriti 96-Well Thermal Cycler, with the cycling parameters described in Table 4.6.

**Table 4.6 – Thermal cycling parameters for Core-E2 PCR 2**

<i>Step</i>	<i>Temperature</i>	<i>Time</i>
Pre-heat	98°C	2 minutes
Amplification (35x)	98°C	30 seconds
	56°C	30 seconds
	72°C	60 seconds
Final extension	72°C	10 minutes

## 5. Purification of Core-E2 and NS5B PCRs

- HCV amplicons were checked for size and purity using gel electrophoresis prior to purification.
- Samples positive for NS5B were diluted 1:14 in nuclease-free water prior to sequencing.
- Those positive for Core-E2 were purified using Favorgen 96-Well GEL/PCR Clean Up Purification Kit (cat. Number: FAPKE 002; Favorgen, Biotech Corp., Taiwan), from either PCR product or gel excision as required. Purified PCR products were not diluted prior to sequencing.

## 6. Sequencing of Core-E2 and NS5B PCRs

- Purified/diluted HCV amplicons were sequenced by population sequencing using the BigDye® Terminator v3.1 Cycle Sequencing Kit (cat. Number: 4337455; Life Technologies), by the Australian Genome Research Facility Ltd (Westmead, NSW, Australia).
- Amplicons were loaded into a 96-well plate with the master mix for sequencing described in Table 7.1. Primers for sequencing were HCVuniv278S22, HCVuniv1791A22, HCVuniv8250S26, and HCVuniv8616A23 described above.
- Sequence chromatograms were processed using RECall: a fully automated sequence analysis pipeline

**Table 6.1 – Mastermix volume for sanger sequencing reactions**

Core-E2 PCR 2		Each tube contains:		Stock solution		Volume/tube (µl)
<i>Reagents</i>	<i>Product source</i>	<i>Amount</i>	<i>Unit</i>	<i>Conc.</i>	<i>Unit</i>	
PolyMate Additive	Bioline	1	x	2	x	6.00
Sequencing primer	IDT	1.67	µM	20	µM	1.00
BigDye Terminator v3.1	Life Technologies					8.00
Purified PCR 1 product						5.00
<b>Final reaction volume</b>		20	µl			

## 7. Reference sequences used in phylogenetic inference

- HCV genotype 1a:

AB079076	DQ838742	EF407446	EU155246	EU155313	EU255935	EU255982	EU256027
AB079077	DQ838743	EF407447	EU155247	EU155314	EU255936	EU255983	EU256028
AB079078	DQ838744	EF407448	EU155248	EU155319	EU255937	EU255984	EU256029
AB079079	DQ838745	EF407449	EU155249	EU155320	EU255938	EU255985	EU256030
AB079080	EF032883	EF407450	EU155250	EU155321	EU255939	EU255986	EU256031
AB079081	EF032886	EF407452	EU155251	EU155322	EU255940	EU255987	EU256032
AB079082	EF032890	EF407453	EU155252	EU155323	EU255941	EU255988	EU256033
AB079083	EF032891	EF407454	EU155265	EU155338	EU255942	EU255989	EU256034
AB079084	EF032895	EF407455	EU155266	EU155339	EU255943	EU255990	EU256035
AB079085	EF032896	EF407456	EU155267	EU155340	EU255944	EU255991	EU256036
AB079086	EF032898	EF407457	EU155268	EU155341	EU255945	EU255992	EU256037
AB079087	EF407411	EF560518	EU155269	EU155342	EU255946	EU255993	EU256038
AB079088	EF407412	EF560520	EU155270	EU155343	EU255947	EU255994	EU256039
AB079089	EF407413	EF560521	EU155271	EU155344	EU255948	EU255995	EU256040
AB079092	EF407414	EF560523	EU155272	EU155345	EU255949	EU255996	EU256041
AB520610	EF407415	EF560525	EU155273	EU155346	EU255950	EU255997	EU256042
AF009606	EF407416	EF560526	EU155274	EU155347	EU255951	EU255998	EU256043
AF271632	EF407417	EF560527	EU155275	EU155348	EU255952	EU255999	EU256044
AF511948	EF407418	EF560530	EU155276	EU155349	EU255953	EU256002	EU256046
AF511949	EF407419	EF560535	EU155277	EU155350	EU255954	EU256003	EU256047
AF511950	EF407420	EF560538	EU155278	EU155351	EU255955	EU256004	EU256048
AF529293	EF407421	EF560540	EU155282	EU155352	EU255956	EU256005	EU256049
AJ557444	EF407422	EF560542	EU155283	EU155353	EU255957	EU256006	EU256050
AY615798	EF407423	EF560544	EU155284	EU155354	EU255958	EU256007	EU256051
AY695437	EF407424	EF560546	EU155285	EU155355	EU255959	EU256008	EU256052
AY885238	EF407425	EF560548	EU155286	EU155378	EU255963	EU256009	EU256053
AY956463	EF407426	EF560550	EU155287	EU155379	EU255964	EU256010	EU256055
AY956464	EF407428	EF560556	EU155288	EU155380	EU255965	EU256011	EU256056
AY956465	EF407429	EF621489	EU155289	EU234063	EU255966	EU256012	EU256057
AY956466	EF407430	EU155213	EU155290	EU234064	EU255967	EU256013	EU256058
AY956468	EF407431	EU155214	EU155291	EU234065	EU255968	EU256014	EU256060
AY956469	EF407432	EU155215	EU155292	EU239713	EU255969	EU256015	EU256067
D00831	EF407433	EU155216	EU155293	EU239715	EU255970	EU256016	EU256068
DQ061301	EF407435	EU155233	EU155294	EU239716	EU255971	EU256017	EU256069
DQ061303	EF407437	EU155236	EU155295	EU250017	EU255973	EU256018	EU256070
DQ061305	EF407438	EU155237	EU155296	EU255927	EU255974	EU256019	EU256071
DQ061312	EF407439	EU155239	EU155297	EU255928	EU255975	EU256020	EU256072
DQ061314	EF407440	EU155240	EU155298	EU255929	EU255976	EU256021	EU256073
DQ061322	EF407441	EU155241	EU155299	EU255930	EU255977	EU256022	EU256074

DQ430813	EF407442	EU155242	EU155309	EU255931	EU255978	EU256023	EU256086
DQ838739	EF407443	EU155243	EU155310	EU255932	EU255979	EU256024	EU256087
DQ838740	EF407444	EU155244	EU155311	EU255933	EU255980	EU256025	EU256094
DQ838741	EF407445	EU155245	EU155312	EU255934	EU255981	EU256026	EU256095
EU256096	EU482870	EU781758	EU781801	FJ024281	JQ801879	JX463538	JX463587
EU256097	EU482871	EU781759	EU781802	FJ024282	JQ801886	JX463539	JX463588
EU256104	EU482872	EU781760	EU781803	FJ181999	JQ801906	JX463540	JX463589
EU256105	EU482873	EU781761	EU781804	FJ182000	JQ801968	JX463541	JX463590
EU256106	EU482876	EU781762	EU781807	FJ182001	JQ802031	JX463542	JX463591
EU256107	EU482878	EU781763	EU781808	FJ205867	JQ802052	JX463543	JX463592
EU260395	EU482882	EU781764	EU781810	FJ205868	JQ802082	JX463544	JX463594
EU260396	EU482884	EU781765	EU781811	FJ205869	JQ802083	JX463546	JX463595
EU370586	EU482887	EU781766	EU781812	FJ390394	JQ802102	JX463548	JX463596
EU370658	EU482889	EU781767	EU781813	FJ390395	JQ802103	JX463549	JX463597
EU482831	EU529676	EU781768	EU781814	FJ390399	JQ802106	JX463550	JX463598
EU482832	EU529677	EU781769	EU781815	FJ410172	JQ802109	JX463551	JX463599
EU482834	EU529678	EU781770	EU781816	GQ149768	JQ802112	JX463552	JX463600
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EU482836	EU529680	EU781772	EU781818	GQ848698	JQ802523	JX463555	JX463602
EU482837	EU529681	EU781773	EU781819	GQ848705	JQ803266	JX463556	JX463603
EU482838	EU569722	EU781774	EU781820	GQ848752	JQ803365	JX463557	JX463604
EU482840	EU569723	EU781775	EU781821	GQ848781	JQ803390	JX463558	JX463605
EU482841	EU595697	EU781776	EU781822	GQ870481	JQ803574	JX463559	JX463606
EU482842	EU595698	EU781777	EU781823	HM000514	JQ803584	JX463560	JX463608
EU482843	EU660383	EU781778	EU781824	HM000528	JQ803592	JX463561	JX463610
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EU482846	EU660387	EU781781	EU862825	HM000532	JQ803888	JX463564	JX463613
EU482847	EU677247	EU781782	EU862826	HM000537	JQ803944	JX463565	JX463614
EU482848	EU677252	EU781783	EU862827	HM000542	JQ804130	JX463566	JX463615
EU482850	EU677253	EU781784	EU862828	HQ113495	JQ804153	JX463567	JX463616
EU482852	EU677258	EU781785	EU862829	HQ113641	JQ804156	JX463568	JX463617
EU482853	EU687193	EU781786	EU862831	HQ113666	JQ804157	JX463569	JX463618
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EU482855	EU687195	EU781788	EU862833	JQ343806	JQ914274	JX463571	JX463620
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EU482857	EU781747	EU781790	EU862836	JQ343810	JX178435	JX463573	JX463622
EU482858	EU781748	EU781791	EU862838	JQ343815	JX463526	JX463574	JX463623
EU482861	EU781749	EU781792	EU862839	JQ343818	JX463527	JX463575	JX463624
EU482862	EU781750	EU781793	EU862840	JQ343819	JX463528	JX463577	JX463625
EU482863	EU781751	EU781794	EU862841	JQ343821	JX463529	JX463579	JX463626

EU482864	EU781752	EU781795	FJ024087	JQ343822	JX463531	JX463580	JX463627
EU482865	EU781753	EU781796	FJ024274	JQ343823	JX463532	JX463581	JX463628
EU482866	EU781754	EU781797	FJ024275	JQ343824	JX463533	JX463583	JX463629
EU482867	EU781755	EU781798	FJ024276	JQ343826	JX463535	JX463584	JX463630
EU482868	EU781756	EU781799	FJ024278	JQ801784	JX463536	JX463585	JX463633
EU482869	EU781757	EU781800	FJ024280	JQ801853	JX463537	JX463586	JX463634
JX463635	JX463638	JX463640	KC155254	M74804	M74808	M74812	
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• HCV genotype 3a:

AB691595	DQ430819	GQ356205	GQ356213	HQ108093	HQ108103	JQ664687	KF035127
AF046866	DQ437509	GQ356206	GQ356214	HQ108095	HQ108104	JQ717254	NC_009824
AY231591	GQ275355	GQ356207	GQ356215	HQ108096	HQ108105	JQ802210	X76918
AY956467	GQ356200	GQ356208	GQ356216	HQ108097	HQ108107	JQ803447	
D14307	GQ356201	GQ356209	GQ356217	HQ108098	HQ639941	KF035123	
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D14311	GQ356203	GQ356211	GU814263	HQ108101	HQ912953	KF035125	
D28917	GQ356204	GQ356212	HQ108092	HQ108102	JN714194	KF035126	