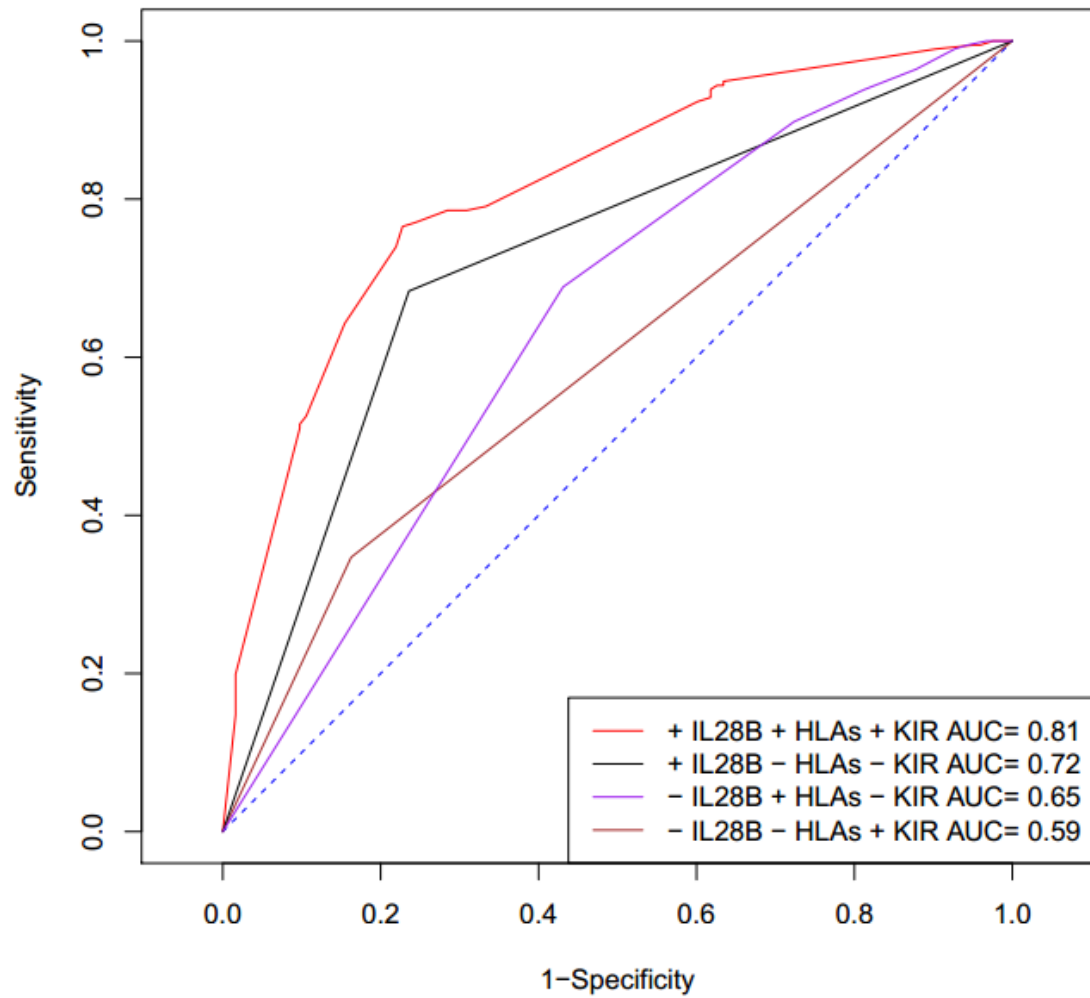
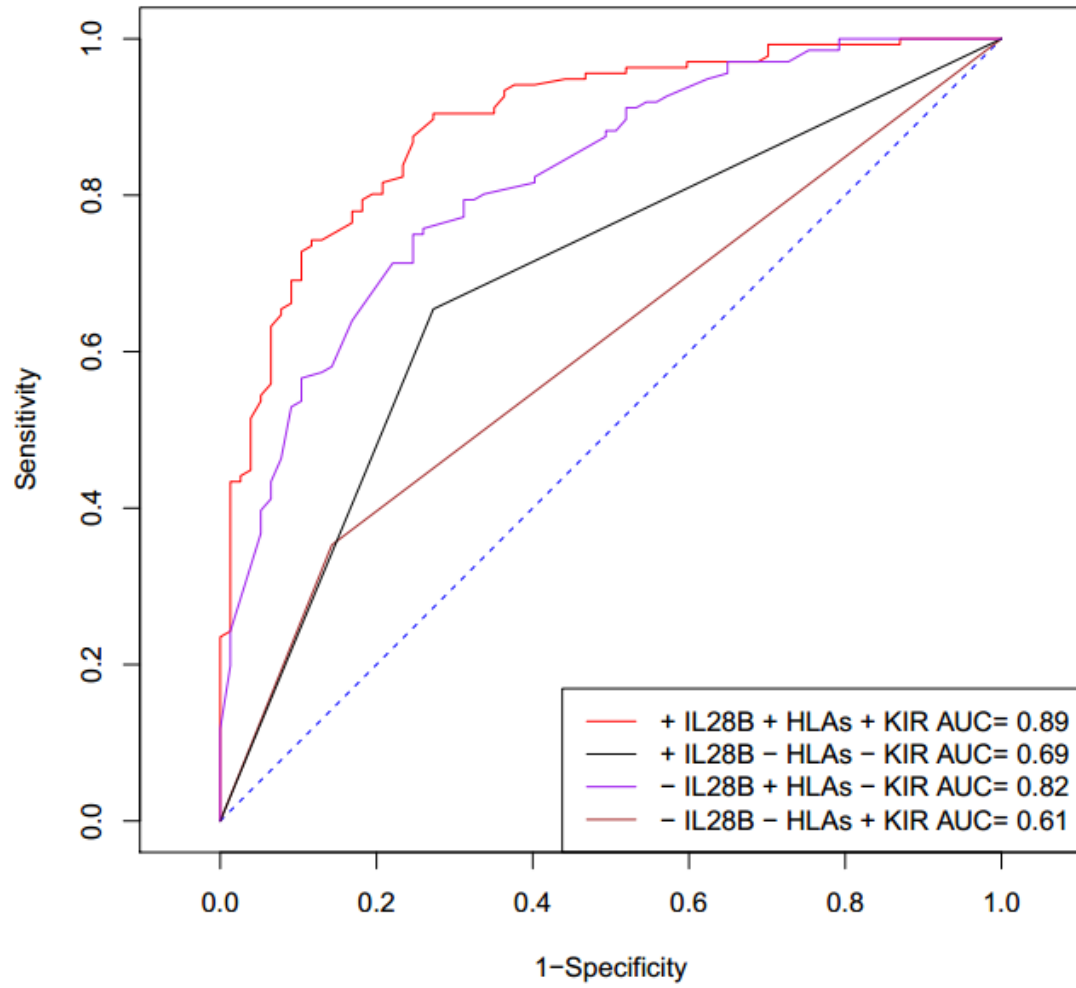


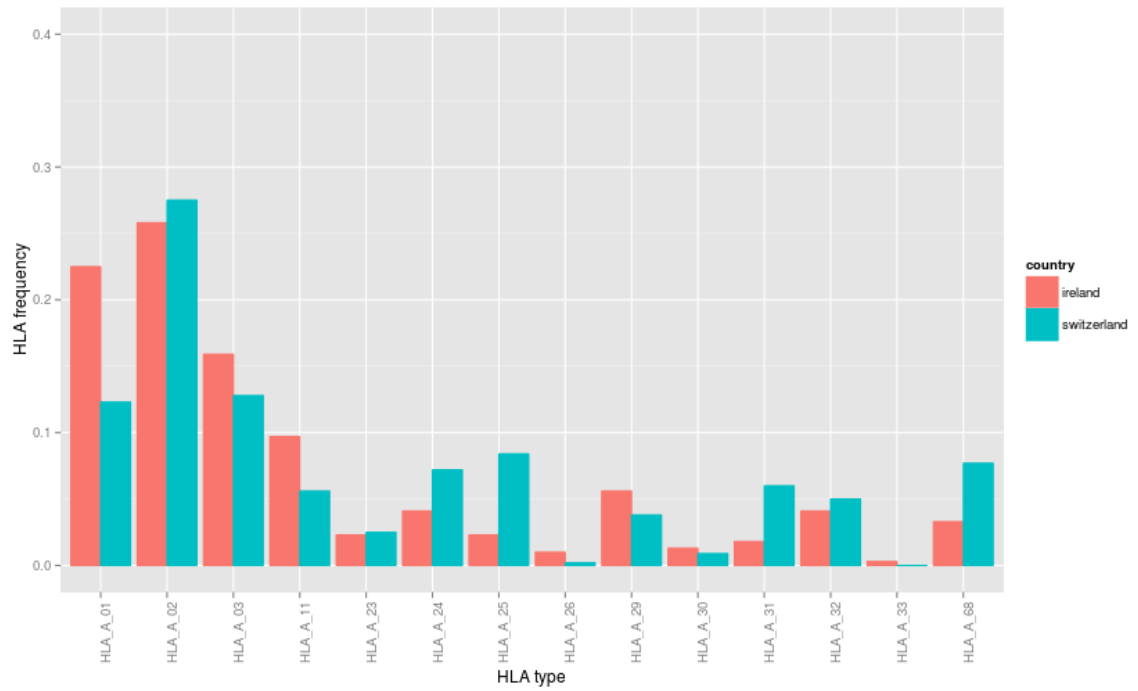
Supplementary Figure 1. HLA and viral clearance in the Irish Cohort. Number of patients with class I alleles within the Irish Cohort, the red bars indicate the number of patients who have not cleared the virus the blue bars indicate the number of patients who have cleared the virus.



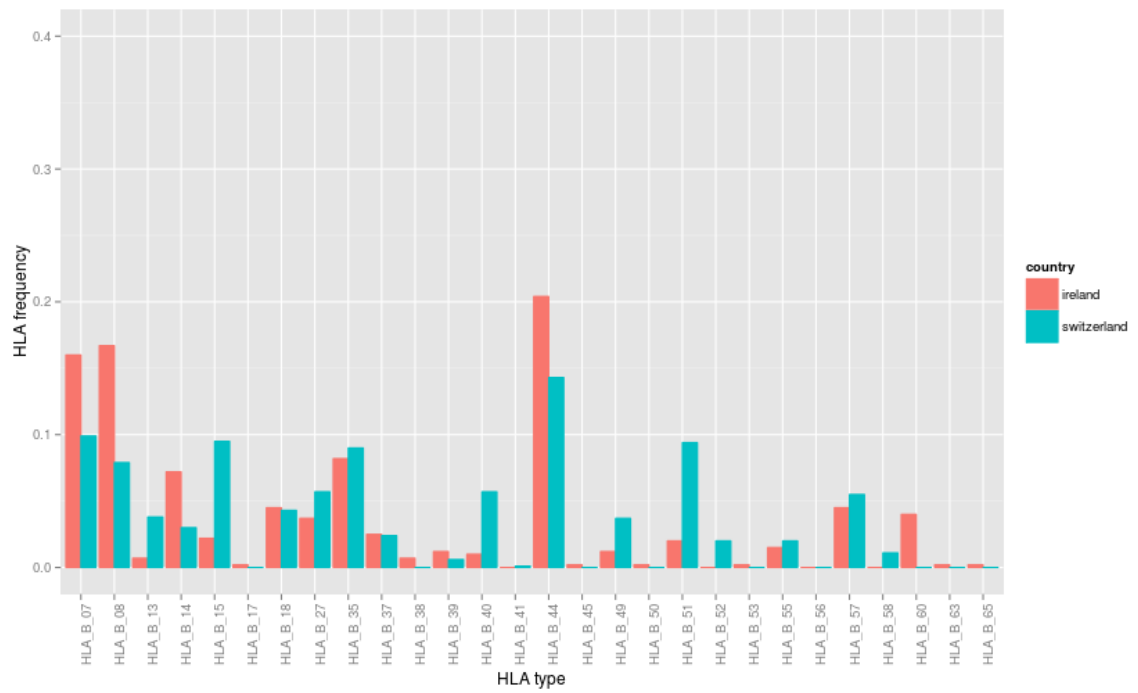
Supplementary Figure 2. ROC curve illustrating the additive performance of different regression models with and without the class I MHC, *IFNL3* (*IL28B*) status and the *KIR2DS3* status within the Irish cohort.



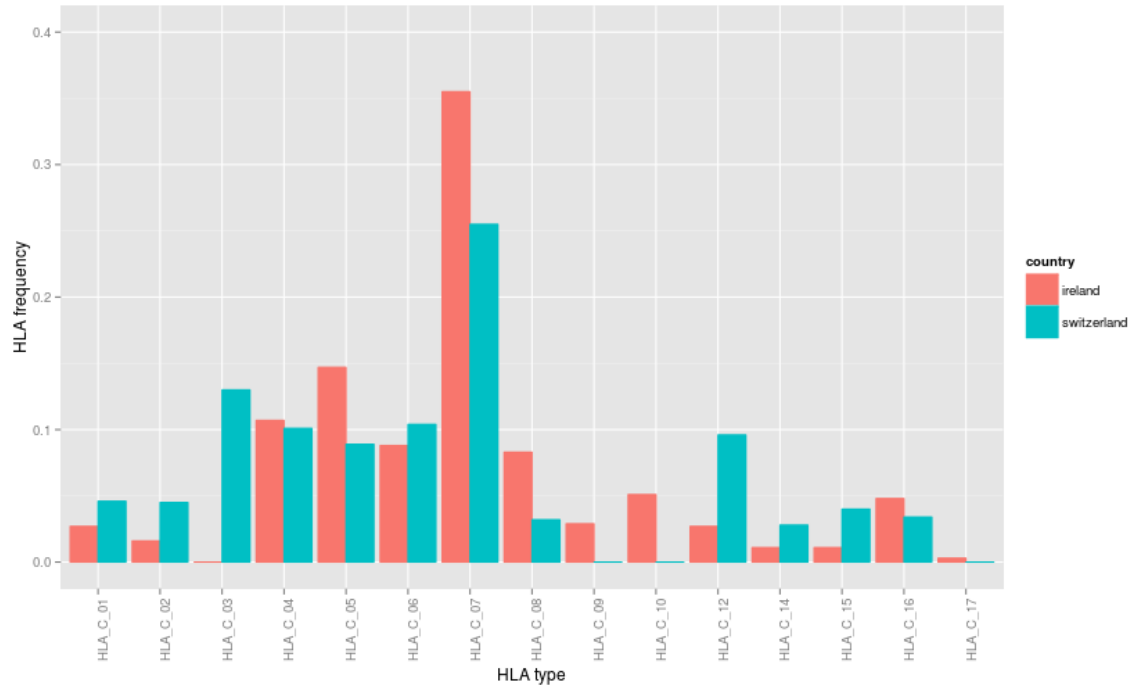
Supplementary Figure 3. ROC curve illustrating the performance of different regression models with and without the class I and class II MHC, *IFNL3* (*IL28B*) status and the *KIR2DS3* status within the Irish cohort.



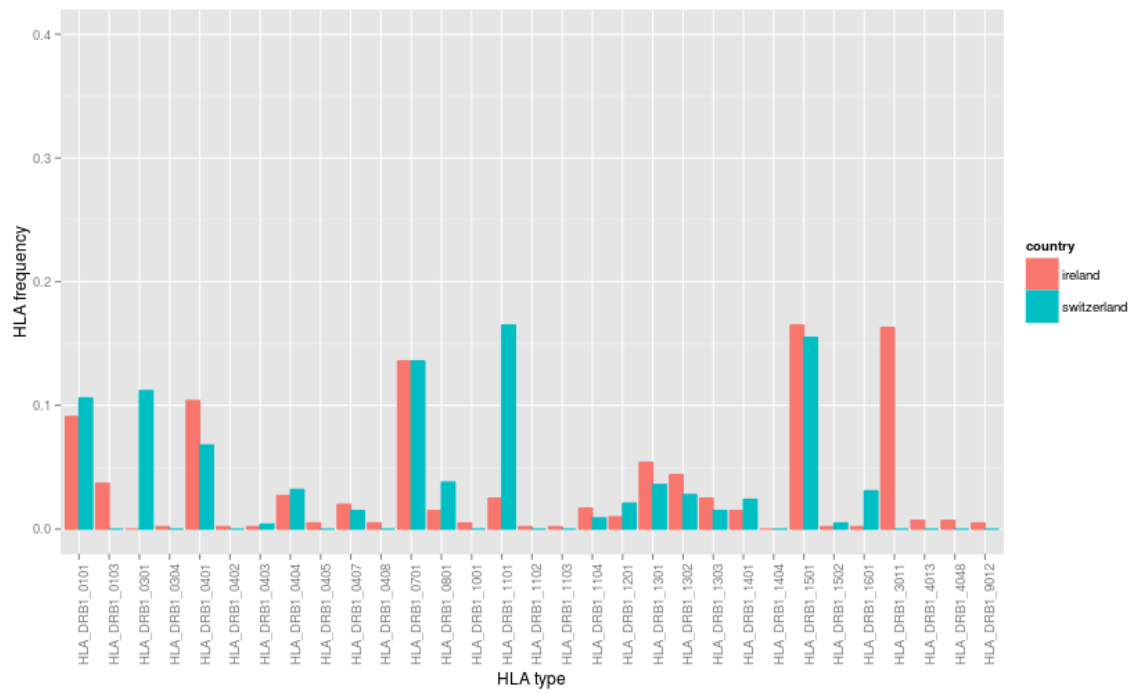
Supplementary Figure 4. Histogram of HLA-A diversity between the two populations.



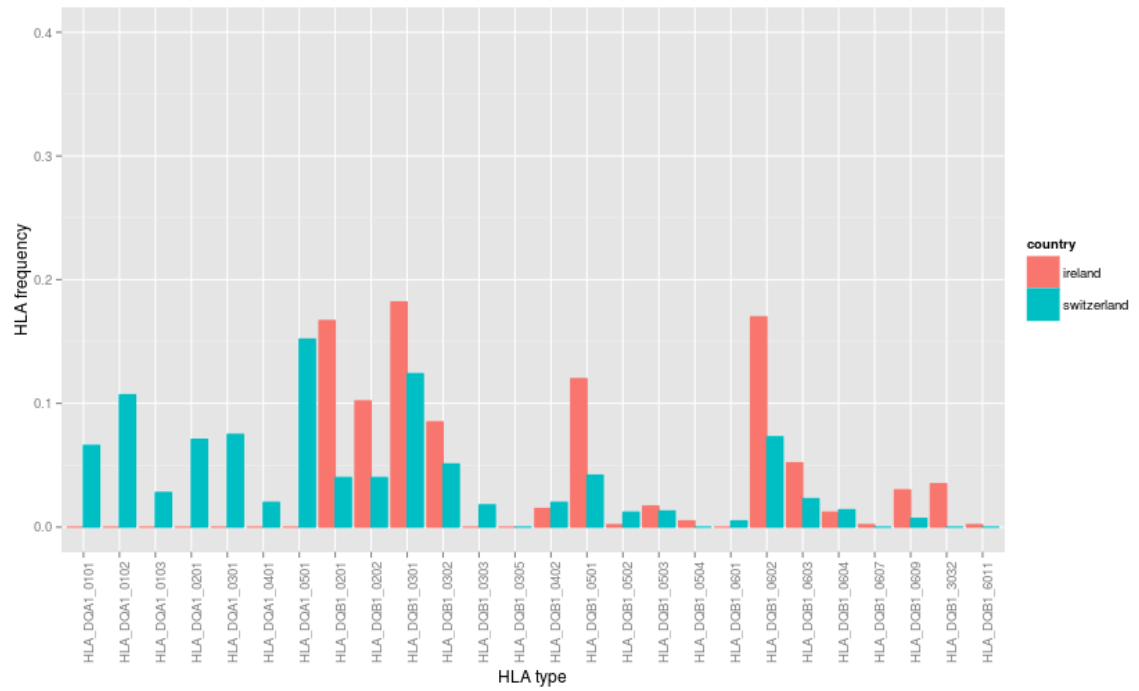
Supplementary Figure 5. HLA B subtype diversity between the two populations.



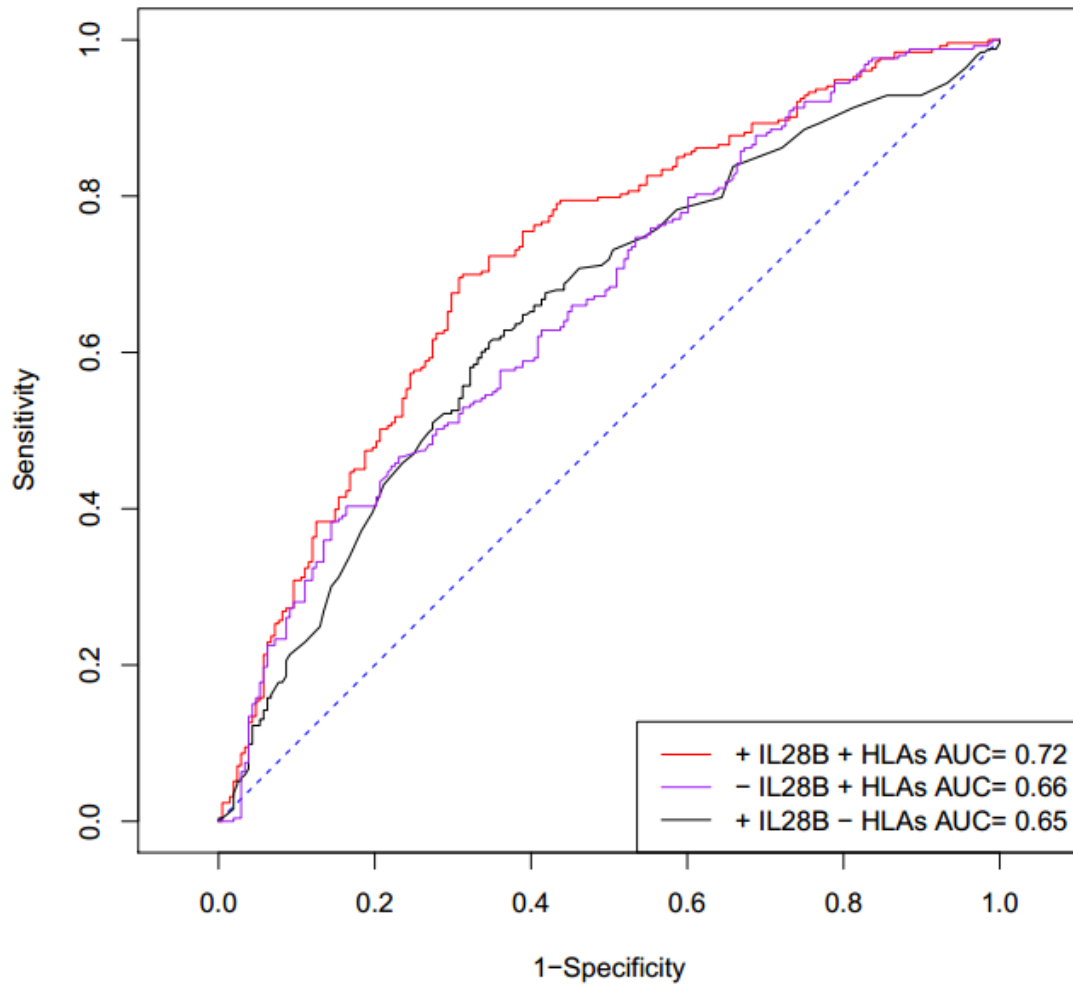
Supplementary Figure 6. HLA C diversity between the two populations.



Supplementary Figure 7. HLA-DRB1 diversity between the two populations.



Supplementary Figure 8. HLA DRQ subtype distribution between the two populations.



Supplementary Figure 9. ROC curve illustrating the performance of different regression models with and without the class I and class II MHC and *IFNL3* (*IL28B*) status within Swiss cohort

Supplementary Table 1. Patient demographics of the Swiss HIV cohort

Demographic																											
Sex	Female 178 (38%); Male 283 (61%)																										
Ethnicity	<table> <tr> <td>White</td> <td>444 (96%)</td> </tr> <tr> <td>Black</td> <td>7 (1.5%)</td> </tr> <tr> <td>Asian</td> <td>3 (<1%)</td> </tr> <tr> <td>Hispano-American</td> <td>3 (<1%)</td> </tr> <tr> <td>Other</td> <td>4 (<1%)</td> </tr> </table>	White	444 (96%)	Black	7 (1.5%)	Asian	3 (<1%)	Hispano-American	3 (<1%)	Other	4 (<1%)																
White	444 (96%)																										
Black	7 (1.5%)																										
Asian	3 (<1%)																										
Hispano-American	3 (<1%)																										
Other	4 (<1%)																										
Age	<p>Minimum:- 18 years</p> <p>1st Quartile 27 years</p> <p>Median 32 years</p> <p>Mean 32.34 years</p> <p>3rd Quartile 37 years</p> <p>Maximum:- 73 years</p>																										
HCV genotype	<table> <tr> <td>Unknown:</td> <td>219</td> </tr> <tr> <td>1</td> <td>8 (3.3%)</td> </tr> <tr> <td>1A</td> <td>64 (26.4%)</td> </tr> <tr> <td>1B</td> <td>40 (16.2%)</td> </tr> <tr> <td>2A/2C</td> <td>5 (2.06%)</td> </tr> <tr> <td>2B</td> <td>3 (1.23%)</td> </tr> <tr> <td>3</td> <td>1 (0.41%)</td> </tr> <tr> <td>3A</td> <td>77 (31.8%)</td> </tr> <tr> <td>4</td> <td>10 (4.13%)</td> </tr> <tr> <td>4A</td> <td>8 (3.3%)</td> </tr> <tr> <td>4A/4C</td> <td>1 (0.41%)</td> </tr> <tr> <td>4C/4D</td> <td>19 (7.85%)</td> </tr> <tr> <td>4F</td> <td>1 (0.41%)</td> </tr> </table>	Unknown:	219	1	8 (3.3%)	1A	64 (26.4%)	1B	40 (16.2%)	2A/2C	5 (2.06%)	2B	3 (1.23%)	3	1 (0.41%)	3A	77 (31.8%)	4	10 (4.13%)	4A	8 (3.3%)	4A/4C	1 (0.41%)	4C/4D	19 (7.85%)	4F	1 (0.41%)
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4C/4D	19 (7.85%)																										
4F	1 (0.41%)																										
HIV coinfectd	100%																										

Supplementary Table 2. HLA Class I associations with viral outcome within the Irish cohort, Fishers exact test (n=319, PCR positive n=196, PCR negative n=123, spontaneous resolvers), listed in order of significant p values

HLA	Chronic n=196	Resolved n=123	P value	Odds Ratio (95% CI)
A*03	43	44	0.01	0.5 (0.3 to 0.9)
B*27	8	14	0.021	0.3 (0.1 to 0.9)
Cw*12	9	14	0.027	0.4 (0.1 to 1)
Cw*01	5	10	0.029	0.3 (0.08 to 1)
B*15	6	11	0.037	0.3 (0.1 to 1)
Cw*04	42	15	0.037	2 (1 to 4)
B*55	9	1	0.1	5.8 (0.8 to 259)
Cw*03	11	13	0.127	0.5 (.2 to 1.3)
B*08	66	31	0.133	1.5 (0.9 to 2.6)
A*30	7	1	0.159	4.5 (0.6 to 205)
B*07	50	41	0.161	0.7 (0.4 to 1.2)
B*51	12	3	0.176	2.6 (0.7 to 15)
B*35	33	14	0.198	1.6 (0.8 to 3.3)
Cw*09	9	2	0.2	3 (0.6 to 28)
A*31	5	6	0.35	0.5 (0.1 to 2)
A*02	97	55	0.4	1.2 (0.8 to 2)
A*23	11	4	0.4	1.8 (0.5 to 7.8)
B*49	3	4	0.4	0.5 (0.1 to 2.8)
Cw*10	10	9	0.47	0.7 (0.2 to 2)
A*32	16	7	0.5	1.5 (0.5 to 4.4)
A*25	10	8	0.63	0.8 (0.3 to 2.3)
B*40	10	8	0.63	0.8 (0.3 to 2.3)
A*11	34	18	0.64	1.2 (0.6 to 2.4)
Cw*14	4	1	0.65	2.5 (0.3 to 126)
B*57	13	10	0.66	0.8 (0.3 to 2.1)
B*38	3	3	0.68	0.6 (0.1 to 4.7)

A*24	23	12	0.71	1.3 (0.6 to 2.8)
B*14	26	14	0.73	1.2 (0.6 to 2.6)
A*26	5	4	0.74	0.8 (0.2 to 4)
B*37	9	7	0.79	0.8 (0.3 to 2.6)
A*01	80	48	0.82	1.1 (0.7 to 1.8)
B*18	18	10	0.84	1.1 (0.5 to 2.9)
Cw*08	26	15	0.86	1.1 (0.5 to 2.3)
Cw*05	53	32	0.9	1.1 (0.6 to 1.8)
Cw*07	122	75	0.91	1.1 (0.6 to 1.7)
A*29	23	15	1	1 (0.5 to 2.1)
A*68	12	8	1	1 (0.3 to 2.7)
B*13	3	1	1	1.9 (0.2 to 100)
B*39	4	3	1	0.8 (0.1 to 5.8)
B*44	77	49	1	1 (0.6 to 1.6)
B*60	10	6	1	1 (0.3 to 3.6)
Cw*02	7	5	1	0.9 (0.2 to 3.6)
Cw*06	30	19	1	1 (0.5 to 2)
Cw*15	4	2	1	1.3 (0.2 to 14)
Cw*16	18	11	1	1 (0.4 to 2.5)
Cw*17	1	1	1	0.6 (0.008 to 50)

Supplementary Table 3. HLA Class I associations with viral outcome in Irish patients who carry the favorable IL28B CC genotype (Fishers exact test used to generate p values), listed in order of significant p values

HLA	Chronic n=62	Resolved n=94	P value	Odds Ratio (95% CI)
A*03	10	34	0.007	0.34 (0.14 to 0.8)
Cw*16	11	6	0.035	3.1 (1 to 11)
Cw*09	5	1	0.037	8.1 (0.9 to 389)
Cw*03	1	10	0.05	0.14 (0.003 to 1)
A*11	15	12	0.09	2.2 (0.9 to 5.6)
Cw*12	3	12	0.164	0.35 (0.06 to 1.4)
B*07	15	32	0.2	0.62 (0.3 to 1.3)
B*51	4	2	0.2	3.1 (0.4 to 36)
B*35	12	11	0.25	1.8 (0.7 to 5)
A*02	34	42	0.25	1.5 (0.8 to 3)
Cw*04	13	13	0.28	1.6 (0.6 to 4.2)
B*55	3	1	0.3	4.7 (0.4 to 251)
A*68	2	7	0.3	0.4 (0.04 to 2.3)
B*40	2	7	0.3	0.4 (0.04 to 2.3)
A*29	10	10	0.34	1.6 (0.6 to 4.6)
Cw*02	4	3	0.44	2.1 (0.3 to 14.7)
B*08	20	25	0.47	1.3 (0.6 to 2.8)
B*57	3	8	0.53	0.5 (0.09 to 2.4)
Cw*07	37	61	0.6	0.8 (0.4 to 1.6)
B*44	25	34	0.6	1.2 (0.6 to 2.4)
B*14	7	14	0.6	0.7 (0.2 to 2.1)
Cw*08	7	14	0.6	0.7 (0.2 to 2.1)
A*26	1	4	0.65	0.4 (0.007 to 3.9)
B*49	1	4	0.65	0.4 (0.007 to 3.9)
A*31	2	5	0.7	0.6 (0.06 to 3.8)
A*32	2	5	0.7	0.6 (0.06 to 3.8)

B*37	2	5	0.7	0.6 (0.06 to 3.8)
Cw*01	2	5	0.7	0.6 (0.06 to 3.8)
Cw*05	14	24	0.7	0.9 (0.4 to 1.9)
B*60	4	4	0.71	1.5 (0.3 to 8.7)
A*01	23	38	0.74	0.9 (0.4 to 1.8)
B*15	3	7	0.74	0.6 (0.1 to 3)
A*25	4	8	0.77	0.7 (0.2 to 3)
B*27	4	8	0.77	0.7 (0.2 to 3)
A*24	6	7	0.8	1.3 (0.4 to 4.9)
B*18	7	9	0.8	1.2 (0.4 to 3.9)
Cw*06	8	14	0.81	0.9 (0.3 to 2.3)
A*23	2	4	1	0.8 (0.07 to 5.4)
B*39	2	3	1	1 (0.08 to 9.1)
Cw*10	4	7	1	0.9 (0.2 to 3.5)
Cw*15	1	2	1	0.8 (0.01 to 15)

Supplementary Table 4. HLA Class I associations with viral outcome in Irish cohort patients who carry the unfavorable IL28B CT/TT genotypes (Fishers exact test used to generate p values), listed in order of significant p values

HLA	Chronic n=134	Resolved n=29	P value	Odds Ratio (95% CI)
B*27	4	6	0.002	0.12 (0.02 to 0.6)
Cw*01	3	5	0.005	0.11 (0.02 to 0.6)
B*15	3	4	0.02	0.2 (0.02 to 0.9)
Cw*16	7	5	0.04	0.3 (0.07 to 1.2)
Cw*04	29	2	0.07	3.7 (0.8 to 34)
Cw*07	85	14	0.15	1.9 (0.8 to 4.5)
B*08	46	6	0.2	2 (0.7 to 6.4)
Cw*08	19	1	0.21	4.6 (0.7 to 199)
Cw*02	3	2	0.22	0.3 (0.03 to 3.9)
B*44	52	15	0.22	0.6 (0.2 to 1.4)
A*29	13	5	0.32	0.5 (0.2 to 2)
Cw*17	1	1	0.32	0.2 (0.003 to 17)
A*03	33	10	0.35	0.6 (0.2 to 1.7)
A*11	19	6	0.4	0.6 (0.2 to 2.2)
B*13	2	1	0.45	0.4 (0.02 to 26)
A*01	57	10	0.53	1.4 (0.6 to 3.7)
A*31	3	1	0.55	0.6 (0.05 to 35)
B*38	3	1	0.55	0.6 (0.05 to 35)
Cw*14	3	1	0.55	0.6 (0.05 to 35)
A*24	17	5	0.55	0.7 (0.2 to 2.7)
B*35	21	3	0.6	1.6 (0.4 to 9)
B*60	6	2	0.63	0.6 (0.1 to 6.8)
Cw*10	6	2	0.63	0.6 (0.1 to 6.8)
Cw*12	6	2	0.63	0.6 (0.1 to 6.8)
B*07	35	9	0.65	0.8 (0.3 to 2.2)
B*37	7	2	0.66	0.75 (0.1 to 7.7)

A*68	10	1	0.7	2.2 (0.3 to 102)
B*18	11	1	0.7	2.5 (0.3 to 112)
Cw*03	10	3	0.7	0.7 (0.2 to 4.2)
A*32	14	2	0.74	1.6 (0.3 to 15)
A*02	63	13	1	1.1 (0.5 to 2.7)
A*30	4	1	1	0.9 (0.08 to 44)
B*40	8	1	1	1.7 (0.2 to 82)
B*51	8	1	1	1.7 (0.2 to 82)
B*57	10	2	1	1.1 (0.2 to 11)
Cw*05	39	8	1	1.1 (0.4 to 3.5)
Cw*06	22	5	1	1 (0.3 to 3.5)
Cw*09	4	1	1	0.9 (0.08 to 44)

Supplementary Table 5. HLA Class II associations with viral outcome from patients within the Irish cohort, Fishers exact test, listed in order of significant p values, n=213

HLA	Chronic n=136	Resolved n=77	P value	Odds Ratio (95% CI)
DQ*0201	56	11	0	4.2 (2 to 10)
DQ*0501	19	29	0	0.3 (0.1 to 0.6)
DR*0101	11	26	0	0.2 (0.1 to 0.4)
DR*3011	55	11	0	4 (2 to 9.3)
DR*1301	20	2	0.004	6.4 (1.5 to 58)
DR*0603	19	2	0.007	6.1 (1.4 to 55)
DQ*0202	33	8	0.018	2.8 (1.2 to 7.3)
DR*0401	20	22	0.019	0.4 (0.2 to 1)
DQ*3032	5	9	0.04	0.3 (0.1 to 1)
DR*1501	37	30	0.09	0.6 (0.3 to 1.1)
DR*0404	4	7	0.1	0.3 (0.06 to 1.3)
DQ*0602	38	30	0.13	0.6 (0.3 to 1.1)
DR*0701	39	16	0.25	1.5 (0.8 to 3.2)
DR*0407	7	1	0.26	4.1 (0.5 to 188)
DQ*0301	43	30	0.3	0.7 (0.4 to 1.4)
DQ*0302	19	15	0.33	0.7 (0.3 to 1.5)
DR*1101	8	2	0.33	2.3 (0.4 to 23)
DQ*0402	5	1	0.4	2.9 (0.3 to 139)
DR*0801	5	1	0.4	2.9 (0.3 to 139)
DR*1401	5	1	0.4	2.9 (0.3 to 139)
DQ*0503	6	1	0.4	3.5 (0.4 to 163)
DQ*0604	4	1	0.7	2.3 (0.2 to 115)
DR*1104	4	3	0.7	0.8 (0.1 to 5.3)
DR*1303	6	4	0.7	0.8 (0.2 to 4.2)
DQ*0609	7	5	0.8	0.8 (0.2 to 3.20)
DQ*0504	1	1	1	0.6 (0.007 to 45)

DR*0103	10	5	1	1.1 (0.3 to 4.4)
DR*0405	1	1	1	0.6 (0.007 to 45)
DR*0408	1	1	1	0.6 (0.007 to 45)
DR*1001	1	1	1	0.6 (0.007 to 45)
DR*1201	3	1	1	1.7 (0.1 to 91)
DR*1302	12	6	1	1.1 (0.4 to 3.9)
DR*9012	1	1	1	0.6 (0.007 to 45)

Supplementary Table 6. HLA Class II associations with viral outcome in patients from the Irish cohort who carry the favorable IL28B CC genotype (Fishers exact test used to generate p values), listed in order of significant p values

HLA	Chronic n=47	Resolved n=56	P value	Odds Ratio (95% CI)
DR*0101	3	17	0.002	0.16 (0.03 to 0.6)
DQ*0202	14	4	0.004	5.4 (1.5 to 25)
DQ*0201	18	9	0.014	3.2 (1.2 to 9.3)
DR*03011	17	9	0.024	2.9 (1.1 to 8.5)
DQ*0501	8	20	0.045	0.4 (0.1 to 1)
DR*0701	17	11	0.076	2.3 (0.9 to 6.3)
DQ*0301	12	24	0.1	0.5 (0.2 to 1.1)
DR*0407	4	1	0.18	5 (0.5 to 256)
DR*3032	2	7	0.18	0.3 (0.03 to 1.8)
DR*1501	13	23	0.2	0.6 (0.2 to 1.4)
DR*0401	9	17	0.26	0.5 (0.2 to 1.5)
DQ*0602	14	23	0.3	0.6 (0.2 to 1.5)
DR*0103	7	4	0.3	2.3 (0.5 to 11.3)
DQ*0302	8	13	0.47	0.7 (0.2 to 2)
DR*1303	1	3	0.6	0.4 (0.007 to 5)
DR*1302	3	5	0.73	0.7 (0.1 to 3.8)
DQ*0609	3	4	1	0.9 (0.1 to 5.6)
DR*1101	1	1	1	1.2 (0.02 to 95)
DR*1301	9	0	0	0
DQ*0603	9	0	0	0

Supplementary Table 7. HLA Class II associations with viral outcome in patients from the Irish cohort who carry the unfavorable IL28B CT/TT genotypes (Fishers exact test used to generate p values), listed in order of significant p values

HLA	Chronic n=89	Resolved n=21	P value	Odds Ratio (95% CI)
DR*0101	8	9	0.001	0.14 (0.04 to 0.5)
DQ*0501	11	9	0.003	0.2 (0.06 to 0.6)
DQ*0201	38	2	0.005	7 (1.5 to 66)
DR*3011	38	2	0.005	7 (1.5 to 66)
DR*0401	11	5	0.18	0.5 (0.1 to 2)
DQ*03032	3	2	0.24	0.3 (0.04 to 4.3)
DR*1001	1	1	0.35	0.2 (0.003 to 19)
DR*0103	3	1	0.58	0.7 (0.05 to 38)
DQ*0602	24	7	0.6	0.7 (0.2 to 2.4)
DR*1501	24	7	0.6	0.7 (0.2 to 2.4)
DR*1302	9	1	0.7	2.2 (0.3 to 103)
DQ*0301	31	6	0.8	1.3 (0.4 to 4.6)
DQ*0202	19	4	1	1.2 (0.3 to 5.3)
DQ*0302	11	2	1	1.3 (0.3 to 13.4)
DQ*0503	6	1	1	1.4 (0.2 to 70)
DQ*0603	10	2	1	1.2 (0.2 to 12.2)
DQ*0609	4	1	1	1 (0.1 to 49)
DR*0701	22	5	1	1 (0.3 to 4.1)
DR*1101	7	1	1	1.7 (0.2 to 81)
DR*1301	11	2	1	1.3 (0.3 to 13.4)
DR*1303	5	1	1	1.2 (0.1 to 59)
DR*1401	5	1	1	1.2 (0.1 to 59)

Supplementary Table 8. Univariate Logistic Regression analysis within Swiss cohort showing results from HLAs that have a p-value \leq 0.3 and where the number of patients with the HLA within the cohort is \geq 5.

HLA	Number patients	OR(CI)	P-value
HLA_A_11	47	2.43 (1.32-4.83)	0.01
HLA_DQB1_0302	62	1.81 (1.09-3.08)	0.02
HLA_B_35	66	1.74(1.07-2.92)	0.03
HLA_C_14	24	0.4(0.16-0.93)	0.04
HLA_C_16	29	2.34(1.05-5.79)	0.05
HLA_C_07	203	0.74(0.54-1.01)	0.06
HLA_DQB1_0301	147	0.73(0.52-1.03)	0.07
HLA_C_04	84	1.53(0.97-2.46)	0.07
HLA_A_23	19	2.38(0.91-7.2)	0.09
HLA_B_08	63	0.65(0.38-1.1)	0.11
HLA_DRB1_0801	32	0.56(0.26-1.15)	0.12
HLA_DQA1_0401	32	0.56(0.26-1.15)	0.12
HLA_DQB1_0402	32	0.56(0.26-1.15)	0.12
HLA_A_02	223	0.8(0.61-1.06)	0.12
HLA_DRB1_0401	37	1.62(0.87-3.08)	0.13
HLA_DRB1_1101	110	0.74(0.5-1.1)	0.14
HLA_A_29	32	1.69(0.83-3.66)	0.16
HLA_A_24	58	0.69(0.4-1.19)	0.18
HLA_B_40	46	0.68(0.36-1.25)	0.21
HLA_B_49	30	0.67(0.33-1.32)	0.25
HLA_C_05	75	1.33(0.82-2.18)	0.25
HLA_C_15	32	1.45(0.75-2.97)	0.28
HLA_DQA1_0103	38	1.43(0.76-2.79)	0.28
HLA_DRB1_1201	18	0.62(0.24-1.5)	0.29