

HLA TYPING REPORT

SOCIAL SECURITY#:

BIRTHDATE:

SEX:

PATIENT ID#: 38047TRANSPLANT CENTER: OTHER

ORGAN NEEDED:

RACE:

MR#:

RELATION	NAME	SAMPLE DATE / TYPED	LOC. TYPED	METHOD	A B O	HLA TYPING									DR51
						A	B	Cw	Bw	DR	DQ	DQA1*	DPB1*	DPA1*	DR52
RECIPIENT	AC-105, ASHI	04/13/17		CI. I: DNA		1	57	6	6	4	8	02	04:01	01	53
				CI. II: DNA		68	71	7	4	7	9	03	06:01	01	53N
	AC-106, ASHI	04/13/17		CI. I: DNA		3	8	7	6	1	2	01	04:01	01	
				CI. II: DNA		32	51	12	4	17	5	05	10:01	02	52
	AC-107, ASHI	04/13/17		CI. I: DNA		2	18	5	6	4	7	02	04:01	01	53
				CI. II: DNA		25	44	12	4	7	9	03	13:01	02	53N
	AC-108, ASHI	04/13/17		CI. I: DNA		11	13	1	6	7	2	01	05:01	02	53
				CI. II: DNA		24	46	10	4	14	5	02	17:01	02	52
	AC-109, ASHI	04/13/17		CI. I: DNA		1	44	2	6	4	6	01	04:01	01	53
				CI. II: DNA		32	61	4	4	13	8	03	104:01	01	52
	AC-110, ASHI	04/13/17		CI. I: DNA		33	7	7	6	4	6	01	04:01	01	53
				CI. II: DNA		68	71	7		15	8	03	06:01	01	51

SEE BELOW INDIVIDUAL RESULT REPORTS FOR ALLELE STINGS

AC-109: DPB1*104:01 CANNOT EXCLUDE DPB1*78:01

NOTES:

- DPB1*03:01 = 03:FNVX (03:01/104:01)
- DPB1*04:02 = 04:FNVS (04:02/105:01)
- In the presence of DPB1*03:01 and 17:01 the following alleles cannot be ruled out: DPB1*09:01 and 20:01
- In the presence of DPB1*04:02 and 14:01 the following alleles cannot be ruled out: DPB1*35:01 and 59:01

This test was developed and its performance determined by the

. It has not been cleared or approved by the U.S. Food and Drug Administration.

However, the FDA does not require licensure of analyte specific reagent since the laboratory is approved under CLIA for high complexity testing.

TEST INFO

Sample ID : **AC-105**
 Patient ID : **AC-105**

Test Date : **4/13/2017**

Kit Name : **LinkSeq HLA ABCDRDQDP SABR**
 Kit Lot # : **K3415-A**
 Plate 1 ID : **EX061623-ARK**

SUMMARY

This session includes tests for A, B, C, DR, DQA, DQB, DPA, and DPB.

test	genotype	phenotype	test	genotype	phenotype
HLA-A	A*01 A*68	A1 A68	HLA-C	C*06 C*07	Cw6 Cw7
HLA-B	B*15 B*57	B71 B57	Bw		Bw4 Bw6
HLA-DRB1	DRB1*04 DRB1*07	DR4 DR7	HLA-DRB345	DRB4*01 DRB4*01:03:01:02N	DR53/Null
HLA-DQA1	DQA1*02 DQA1*03	DQA1*02 DQA1*03	HLA-DQB1	DQB1*03 DQB1*03	DQ9 DQ8
HLA-DPA1	DPA1*01 DPA1*01	DPA1*01 DPA1*01			

test	epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
HLA-DPB1	EDP04	DPB1*04:01:01:01 (plus 103 rare alleles)	LFQG	EEFA	AAE	ILEEK	M	GGPM
	EDP06	DPB1*06:01 (plus 1 rare alleles)	VYQL	EEFV	DED	LLEEE	M	DEAV

(Notice: Cannot exclude other combinations. Review all results.)

All test results are based on IMGT/HLA release: version 3.23.0 - January 2016

LABORATORY ASSIGNMENT

HLA-A : **A1 A68** HLA-B : **B71 B57** Bw : **Bw4 Bw6**

HLA-C : **Cw6 Cw7** HLA-DRB1 : **DR4 DR7** HLA-DRB345 : **DR53/Null**

HLA-DQA1 : **DQA1*02**
DQA1*03 HLA-DQB1 : **DQ9 DQ8**

HLA-DPA1 : **DPA1*01**
DPA1*01 HLA-DPB1 : **DPB1*04:01:01:01**
DPB1*06:01

NOTES**REVIEW**

Analyzed By:

Signature:

Date:

Reviewed By:

Signature:

Date:

HLA-A

group	allele	antigen
A*01	A*01:01:01:01, A*01:02, A*01:03; A*01:01:02e, A*01:01:03e, A*01:01:04e, A*01:01:05e, A*01:01:06e, A*01:01:07e, A*01:01:08e, A*01:01:09e, A*01:01:10e, A*01:01:11e, A*01:01:12e, A*01:01:13e, A*01:01:14e, A*01:01:15e, A*01:01:16e, A*01:01:17e, A*01:01:18e, A*01:01:19e, A*01:01:20e, A*01:01:21e, A*01:01:22e, A*01:01:23e, A*01:01:24e, A*01:01:25e, A*01:01:26e, A*01:01:27e, A*01:01:28e, A*01:01:29e, A*01:01:30e, A*01:01:31e, A*01:01:32e, A*01:01:33e, A*01:01:34e, A*01:01:35e, A*01:01:36e, A*01:01:37e, A*01:01:38e, A*01:01:39e, A*01:01:40e, A*01:01:41e, A*01:01:42e, A*01:01:43e, A*01:01:44e, A*01:01:45e, A*01:01:46e, A*01:01:47e, A*01:01:48e, A*01:01:49e, A*01:01:50e, A*01:01:51e, A*01:01:52e, A*01:01:53e, A*01:01:54e, A*01:01:55e, A*01:01:57e, A*01:01:58e, A*01:01:59e, A*01:01:60e, A*01:01:61e, A*01:01:62e, A*01:01:63e, A*01:01:64e, A*01:01:65e, A*01:01:66e, A*01:01:67e, A*01:01:68e, A*01:01:69e, A*01:01:70e, A*01:01:71e, A*01:01:72e, A*01:01:73e, A*01:01:74e, A*01:01:75e, A*01:01:76e, A*01:01:77e, A*01:01:78e, A*01:01:79e, A*01:01:80e, A*01:01:81e, A*01:01:82e, A*01:01:83:01e, A*01:83:02e, A*01:84e, A*01:85e, A*01:86e, A*01:87Ne, A*01:88e, A*01:89e, A*01:90e, A*01:91e, A*01:92e, A*01:93e, A*01:94e, A*01:96e, A*01:97e, A*01:98e, A*01:99e, A*01:100e, A*01:101e, A*01:103e, A*01:104e, A*01:105e, A*01:106e, A*01:107e, A*01:108e, A*01:109e, A*01:110e, A*01:111e, A*01:112e, A*01:113e, A*01:114e, A*01:115e, A*01:116e, A*01:117e, A*01:118e, A*01:119e, A*01:120e, A*01:121e, A*01:122e, A*01:123Ne, A*01:124e, A*01:125e, A*01:126e, A*01:128e, A*01:129e, A*01:130e, A*01:131e, A*01:132e, A*01:133e, A*01:134e, A*01:135e, A*01:137e, A*01:138e, A*01:139e, A*01:140e, A*01:141e, A*01:142e, A*01:143e, A*01:144e, A*01:145e, A*01:146e, A*01:147Qe, A*01:148e, A*01:149e, A*01:150e, A*01:151e, A*01:152e, A*01:153e, A*01:154e, A*01:155e, A*01:156e, A*01:157e, A*01:158e, A*01:159e, A*01:160Ne, A*01:161e, A*01:162Ne, A*01:163e, A*01:164e, A*01:165e, A*01:166e, A*01:167e, A*01:168e, A*01:169e, A*01:170e, A*01:171e, A*01:172e, A*01:173e, A*01:174e, A*01:175e, A*01:177e, A*01:178Ne, A*01:179Ne, A*01:180e, A*01:181e, A*01:182e, A*01:183e, A*01:184e, A*01:185e, A*01:186Ne, A*01:187e, A*01:188e, A*01:189e, A*01:190e, A*01:191e, A*01:192e, A*01:193e, A*01:195e, A*01:196e, A*01:197e, A*01:198e, A*01:199e	A1
	A*01:01:01:02Ne, A*01:04Nd, A*01:11Ne, A*01:15Ne, A*01:16Ne, A*01:18Ne, A*01:22Ne, A*01:27Ne	Null
	A*01:01:38Le, A*01:06d, A*01:09d, A*01:10e, A*01:14e, A*01:17d, A*01:20e, A*01:21e, A*01:23e, A*01:24e, A*01:25d, A*01:26e, A*01:28e, A*01:29e, A*01:30e, A*01:31Ne, A*01:32e, A*01:33e, A*01:35e, A*01:36e, A*01:37e, A*01:38e, A*01:39e, A*01:40e, A*01:41e, A*01:42e, A*01:43e, A*01:44e, A*01:45e, A*01:46e, A*01:47e, A*01:48e, A*01:49e, A*01:50e, A*01:51e, A*01:52:01Ne, A*01:52:02Ne, A*01:53Ne, A*01:54e, A*01:55e, A*01:56Ne, A*01:57Ne, A*01:58e, A*01:59e, A*01:60e, A*01:61e, A*01:62e, A*01:63e, A*01:64e, A*01:65e, A*01:66e, A*01:67:01e, A*01:67:02e, A*01:68e, A*01:70e, A*01:71e, A*01:72e, A*01:73e, A*01:74e, A*01:75e, A*01:76e, A*01:77e, A*01:78e, A*01:79e, A*01:80e, A*01:81e, A*01:82e, A*01:83:01e, A*01:83:02e, A*01:84e, A*01:85e, A*01:86e, A*01:87Ne, A*01:88e, A*01:89e, A*01:90e, A*01:91e, A*01:92e, A*01:93e, A*01:94e, A*01:96e, A*01:97e, A*01:98e, A*01:99e, A*01:100e, A*01:101e, A*01:103e, A*01:104e, A*01:105e, A*01:106e, A*01:107e, A*01:108e, A*01:109e, A*01:110e, A*01:111e, A*01:112e, A*01:113e, A*01:114e, A*01:115e, A*01:116e, A*01:117e, A*01:118e, A*01:119e, A*01:120e, A*01:121e, A*01:122e, A*01:123Ne, A*01:124e, A*01:125e, A*01:126e, A*01:128e, A*01:129e, A*01:130e, A*01:131e, A*01:132e, A*01:133e, A*01:134e, A*01:135e, A*01:137e, A*01:138e, A*01:139e, A*01:140e, A*01:141e, A*01:142e, A*01:143e, A*01:144e, A*01:145e, A*01:146e, A*01:147Qe, A*01:148e, A*01:149e, A*01:150e, A*01:151e, A*01:152e, A*01:153e, A*01:154e, A*01:155e, A*01:156e, A*01:157e, A*01:158e, A*01:159e, A*01:160Ne, A*01:161e, A*01:162Ne, A*01:163e, A*01:164e, A*01:165e, A*01:166e, A*01:167e, A*01:168e, A*01:169e, A*01:170e, A*01:171e, A*01:172e, A*01:173e, A*01:174e, A*01:175e, A*01:177e, A*01:178Ne, A*01:179Ne, A*01:180e, A*01:181e, A*01:182e, A*01:183e, A*01:184e, A*01:185e, A*01:186Ne, A*01:187e, A*01:188e, A*01:189e, A*01:190e, A*01:191e, A*01:192e, A*01:193e, A*01:195e, A*01:196e, A*01:197e, A*01:198e, A*01:199e	-
A*68	A*68:12d, A*68:17d, A*68:26e	A28
	A*68:01:01:01, A*68:01:02:01; A*68:01:01:02e, A*68:01:02:02e, A*68:01:02:03e, A*68:01:03e, A*68:01:04e, A*68:01:05e, A*68:01:06e, A*68:01:07e, A*68:01:08e, A*68:01:09e, A*68:01:10e, A*68:01:11e, A*68:01:12e, A*68:01:13e, A*68:01:14e, A*68:01:15e, A*68:01:16e, A*68:01:17e, A*68:01:18e, A*68:01:19e, A*68:01:20e, A*68:01:21e, A*68:01:22e, A*68:01:23e, A*68:01:24e, A*68:01:25e, A*68:01:26e, A*68:01:27e, A*68:01:29e, A*68:01:31e, A*68:01:32e, A*68:08:01d, A*68:08:02e, A*68:16e, A*68:33e, A*68:36e	A68
	A*68:11Nd	Null
	A*68:06d, A*68:07d, A*68:09e, A*68:21:01e, A*68:21:02e, A*68:22d, A*68:23e, A*68:24d, A*68:25d, A*68:27:01d, A*68:27:02e, A*68:29e, A*68:32e, A*68:35d, A*68:37d, A*68:38e, A*68:40d, A*68:41e, A*68:42e, A*68:43:01e, A*68:43:02e, A*68:45e, A*68:46e, A*68:47e, A*68:50e, A*68:52e, A*68:55:01e, A*68:55:02e, A*68:56e, A*68:57e, A*68:58e, A*68:59Ne, A*68:63e, A*68:65e, A*68:68e, A*68:69e, A*68:70e, A*68:72e, A*68:73e, A*68:75:01e, A*68:75:02e, A*68:76:01e, A*68:76:02e, A*68:79e, A*68:84e, A*68:85e, A*68:87e, A*68:88e, A*68:89e, A*68:93e, A*68:94Ne, A*68:95e, A*68:96e, A*68:98e, A*68:99e, A*68:100e, A*68:101e, A*68:102e, A*68:103:01e, A*68:103:02e, A*68:104:01e, A*68:104:02e, A*68:106e, A*68:107e, A*68:108e, A*68:111e, A*68:112:01e, A*68:112:02e, A*68:113e, A*68:114e, A*68:115e, A*68:116e, A*68:117e, A*68:118e, A*68:119:01e, A*68:119:02e, A*68:120Ne, A*68:121e, A*68:122e, A*68:123e, A*68:127e, A*68:129e, A*68:131e, A*68:132e, A*68:133e, A*68:135e, A*68:136e, A*68:137e, A*68:139e, A*68:141e, A*68:142Ne	-

HLA-B

group	allele	antigen
B*15	B*15:10:01, B*15:18:01; B*15:10:02e, B*15:10:03e, B*15:10:04e, B*15:18:04e, B*15:18:05e, B*15:18:06e, B*15:93e, B*15:108e	B71
	B*15:72e, B*15:90e, B*15:99e, B*15:119e, B*15:133e, B*15:134e, B*15:153e, B*15:176e, B*15:197:01e, B*15:197:02e, B*15:198e, B*15:221e, B*15:226Ne, B*15:238e, B*15:263e, B*15:292e, B*15:294Ne, B*15:306e, B*15:307e, B*15:311e, B*15:312e, B*15:313e, B*15:314e, B*15:337e, B*15:338e, B*15:351e, B*15:354e	-
B*57	B*57:01:01; B*57:01:02e, B*57:01:03e, B*57:01:04e, B*57:01:05e, B*57:01:06e, B*57:01:07e, B*57:01:08e, B*57:01:10e, B*57:01:11e, B*57:01:12e, B*57:01:13e, B*57:01:14e, B*57:01:15e, B*57:01:16e, B*57:01:17e, B*57:01:18e, B*57:01:19e, B*57:01:20e, B*57:01:21e, B*57:01:22e, B*57:08e	B57
	B*57:06e, B*57:10e, B*57:13e, B*57:14:01e, B*57:14:02e, B*57:15e, B*57:18e, B*57:19e, B*57:20e, B*57:21e, B*57:23e, B*57:24e, B*57:25e, B*57:26e, B*57:27e, B*57:29e, B*57:30e, B*57:31e, B*57:33e, B*57:34e, B*57:35e, B*57:36e, B*57:37e, B*57:38e, B*57:40e, B*57:41e, B*57:43e, B*57:44e, B*57:47e, B*57:48e, B*57:49e, B*57:50e, B*57:52e, B*57:53e, B*57:54e, B*57:55e, B*57:56e, B*57:58e, B*57:59e, B*57:60e, B*57:61e, B*57:62e, B*57:64e, B*57:65e, B*57:68e, B*57:72e, B*57:73e, B*57:74e, B*57:75e, B*57:77e, B*57:78e, B*57:79Ne, B*57:81e	-

Bw

allele	antigen
B*57:01:01; B*57:01:02e, B*57:01:03e, B*57:01:04e, B*57:01:05e, B*57:01:06e, B*57:01:07e, B*57:01:08e, B*57:01:10e, B*57:01:11e,	

B*57:01:12e, B*57:01:13e, B*57:01:14e, B*57:01:15e, B*57:01:16e, B*57:01:17e, B*57:01:18e, B*57:01:19e, B*57:01:20e, B*57:01:21e, B*57:01:22e, B*57:06e, B*57:08e, B*57:10e, B*57:13e, B*57:14:01e, B*57:14:02e, B*57:15e, B*57:18e, B*57:19e, B*57:20e, B*57:21e, B*57:23e, B*57:24e, B*57:25e, B*57:26e, B*57:27e, B*57:29e, B*57:30e, B*57:31e, B*57:33e, B*57:34e, B*57:35e, B*57:36e, B*57:37e, B*57:38e, B*57:40e, B*57:41e, B*57:43e, B*57:44e, B*57:47e, B*57:48e, B*57:49e, B*57:50e, B*57:52e, B*57:53e, B*57:54e, B*57:55e, B*57:56e, B*57:58e, B*57:59e, B*57:60e, B*57:61e, B*57:62e, B*57:64e, B*57:65e, B*57:68e, B*57:72e, B*57:73e, B*57:74e, B*57:75e, B*57:77e, B*57:78e, B*57:79Ne, B*57:81e	Bw4
B*15:10:01, B*15:18:01; B*15:10:02e, B*15:10:03e, B*15:10:04e, B*15:18:04e, B*15:18:05e, B*15:18:06e, B*15:72e, B*15:90e, B*15:93e, B*15:99e, B*15:108e, B*15:119e, B*15:133e, B*15:134e, B*15:153e, B*15:176e, B*15:197:01e, B*15:197:02e, B*15:198e, B*15:221e, B*15:226Ne, B*15:238e, B*15:263e, B*15:292e, B*15:294Ne, B*15:306e, B*15:307e, B*15:311e, B*15:312e, B*15:313e, B*15:314e, B*15:337e, B*15:338e, B*15:351e, B*15:354e	Bw6

HLA-C

group	allele	antigen
C*06	C*06:02:01:01; C*06:02:01:02d, C*06:02:01:03e, C*06:02:03e, C*06:02:04e, C*06:02:05e, C*06:02:06e, C*06:02:07e, C*06:02:09e, C*06:02:10e, C*06:02:11e, C*06:02:12e, C*06:02:13e, C*06:02:14e, C*06:02:15e, C*06:02:16e, C*06:02:17e, C*06:02:18e, C*06:02:19e, C*06:02:20e, C*06:02:21e, C*06:02:22e, C*06:02:23e, C*06:02:24e, C*06:02:25e, C*06:02:26e, C*06:02:28e, C*06:02:29e, C*06:02:30e, C*06:02:31e, C*06:02:32e, C*06:02:33e, C*06:02:34e, C*06:02:35e, C*06:02:36e, C*06:02:37e, C*06:02:38e, C*06:02:39e, C*06:02:40e, C*06:02:41e, C*06:02:42e, C*06:02:43e, C*06:02:44e	Cw6
	C*06:03:02e, C*06:04:01d, C*06:04:02e, C*06:06d, C*06:07d, C*06:08d, C*06:09d, C*06:10e, C*06:11e, C*06:12e, C*06:13e, C*06:14e, C*06:15e, C*06:17e, C*06:18e, C*06:19e, C*06:20e, C*06:21e, C*06:22e, C*06:23e, C*06:24e, C*06:25e, C*06:26e, C*06:27d, C*06:28e, C*06:29e, C*06:30e, C*06:32e, C*06:33e, C*06:34:01e, C*06:36e, C*06:37e, C*06:38e, C*06:39e, C*06:40e, C*06:41e, C*06:42:01e, C*06:42:02e, C*06:43:01e, C*06:43:02e, C*06:45e, C*06:46Ne, C*06:47e, C*06:48e, C*06:49Ne, C*06:50e, C*06:51e, C*06:52e, C*06:53:01e, C*06:53:02e, C*06:54e, C*06:55e, C*06:56e, C*06:57e, C*06:58e, C*06:59e, C*06:60e, C*06:61e, C*06:62e, C*06:63e, C*06:64e, C*06:65e, C*06:66e, C*06:67e, C*06:68e, C*06:69e, C*06:70:01e, C*06:70:02e, C*06:71e, C*06:73e, C*06:74Qe, C*06:75e, C*06:76:01e, C*06:77e, C*06:78e, C*06:79Ne, C*06:80e, C*06:81e, C*06:82e, C*06:83e, C*06:84e, C*06:85e, C*06:86e, C*06:87e, C*06:88e, C*06:89e, C*06:90e, C*06:91e, C*06:92e, C*06:93e, C*06:94e, C*06:95e, C*06:96e, C*06:97e, C*06:98e, C*06:99e, C*06:100e, C*06:102e, C*06:103e, C*06:104e, C*06:105e, C*06:106:01e, C*06:106:02e, C*06:107e, C*06:108e, C*06:109e, C*06:110e, C*06:111e, C*06:112e, C*06:113e, C*06:114e, C*06:115e, C*06:116Ne, C*06:117e, C*06:118e, C*06:119e, C*06:120e, C*06:121e, C*06:122e, C*06:123e, C*06:124e, C*06:125e, C*06:126e, C*06:128Ne, C*06:129e, C*06:130e, C*06:131e, C*06:133e, C*06:134Ne, C*06:135e, C*06:137e, C*06:138e, C*06:139e, C*06:140e, C*06:141e, C*06:142e, C*06:145e, C*06:146e, C*06:147e, C*06:148e, C*06:149e, C*06:150e, C*06:151e, C*06:152Ne, C*06:153e, C*06:154e, C*06:155e, C*06:156e, C*06:157e, C*06:158e, C*06:159e, C*06:160e, C*06:161e, C*06:162e, C*06:163e, C*06:164e, C*06:165e, C*06:166e, C*06:167e, C*06:169e, C*06:170e, C*06:171Ne, C*06:172e, C*06:173e	-
C*07	C*07:04:01; C*07:01:25e, C*07:01:46e, C*07:02:48e, C*07:04:02e, C*07:04:03e, C*07:04:04e, C*07:04:05e, C*07:04:06e, C*07:04:07e, C*07:04:08e, C*07:04:09e, C*07:04:10e, C*07:05d, C*07:12d, C*07:14e, C*07:16e, C*07:37e, C*07:45e	Cw7
	C*07:07d, C*07:08e, C*07:10d, C*07:11e, C*07:27:01d, C*07:27:02e, C*07:31:01e, C*07:31:02e, C*07:43d, C*07:60d, C*07:63e, C*07:68e, C*07:109e, C*07:136e, C*07:137:01e, C*07:138e, C*07:139e, C*07:142e, C*07:157e, C*07:181e, C*07:184e, C*07:195e, C*07:199:01e, C*07:199:02e, C*07:216e, C*07:264Ne, C*07:272e, C*07:292e, C*07:294e, C*07:302e, C*07:315e, C*07:323e, C*07:324e, C*07:329Ne, C*07:336e, C*07:338e, C*07:346e, C*07:354e, C*07:355e, C*07:357e, C*07:358e, C*07:361e, C*07:364e, C*07:365e, C*07:367e, C*07:378e, C*07:387e, C*07:394e, C*07:395e, C*07:396e, C*07:403e, C*07:405e, C*07:406e, C*07:417e, C*07:420e, C*07:426e, C*07:428e, C*07:437Ne, C*07:459e, C*07:466e, C*07:467e, C*07:475e, C*07:476Ne, C*07:480e, C*07:485e	-
This genotype was chosen as the most likely; cannot exclude one or more rare genotypes.		

HLA-DR

HLA-DRB1

group	allele	antigen
DRB1*04	DRB1*04:04:01, DRB1*04:08:01; DRB1*04:01:09e, DRB1*04:01:13e, DRB1*04:01:14e, DRB1*04:01:15e, DRB1*04:03:05e, DRB1*04:03:11e, DRB1*04:04:02e, DRB1*04:04:03e, DRB1*04:04:04e, DRB1*04:04:05e, DRB1*04:04:06e, DRB1*04:04:07e, DRB1*04:04:08e, DRB1*04:04:09e, DRB1*04:04:10e, DRB1*04:05:17e, DRB1*04:05:18e, DRB1*04:08:02e, DRB1*04:08:03e, DRB1*04:08:04e, DRB1*04:23d, DRB1*04:25d, DRB1*04:31e, DRB1*04:32e, DRB1*04:42e	DR4
	DRB1*04:18d, DRB1*04:36e, DRB1*04:37e, DRB1*04:40d, DRB1*04:43e, DRB1*04:44e, DRB1*04:47e, DRB1*04:50d, DRB1*04:51d, DRB1*04:53:01e, DRB1*04:53:02e, DRB1*04:54d, DRB1*04:55e, DRB1*04:56:01e, DRB1*04:56:02e, DRB1*04:57e, DRB1*04:58e, DRB1*04:62e, DRB1*04:70e, DRB1*04:73e, DRB1*04:75e, DRB1*04:76e, DRB1*04:79e, DRB1*04:82e, DRB1*04:94:01Ne, DRB1*04:95:01e, DRB1*04:95:02e, DRB1*04:98:01e, DRB1*04:98:02e, DRB1*04:108e, DRB1*04:118e, DRB1*04:120Ne, DRB1*04:121e, DRB1*04:122e, DRB1*04:127e, DRB1*04:128e, DRB1*04:132e, DRB1*04:140e, DRB1*04:141e, DRB1*04:143e, DRB1*04:149e, DRB1*04:157Ne, DRB1*04:159e, DRB1*04:163e, DRB1*04:164e, DRB1*04:166e, DRB1*04:167e, DRB1*04:168e, DRB1*04:177e, DRB1*04:180e, DRB1*04:182e, DRB1*04:185e, DRB1*04:189e, DRB1*04:193e, DRB1*04:202e, DRB1*04:205e, DRB1*04:206e	-
DRB1*07	DRB1*07:01:01:01; DRB1*07:01:01:02e, DRB1*07:01:02e, DRB1*07:01:03e, DRB1*07:01:04e, DRB1*07:01:05e, DRB1*07:01:06e, DRB1*07:01:07e, DRB1*07:01:08e, DRB1*07:01:09e, DRB1*07:01:10e, DRB1*07:01:11e, DRB1*07:01:12e, DRB1*07:01:13e, DRB1*07:01:14e, DRB1*07:01:15e, DRB1*07:01:16e, DRB1*07:01:17e, DRB1*07:01:18e, DRB1*07:03d, DRB1*07:04e, DRB1*07:09e	DR7
	DRB1*07:10Ne	<i>Null</i>
	DRB1*07:05d, DRB1*07:06e, DRB1*07:07d, DRB1*07:08e, DRB1*07:11d, DRB1*07:12e, DRB1*07:13d, DRB1*07:14e, DRB1*07:15e, DRB1*07:16e, DRB1*07:17e, DRB1*07:18e, DRB1*07:19e, DRB1*07:20e, DRB1*07:21e, DRB1*07:22e,	

DRB1*07:23e, DRB1*07:24e, DRB1*07:25e, DRB1*07:26Ne, DRB1*07:27e, DRB1*07:28e, DRB1*07:29e, DRB1*07:30e, DRB1*07:31e, DRB1*07:32e, DRB1*07:33e, DRB1*07:34e, DRB1*07:35e, DRB1*07:36e, DRB1*07:37e, DRB1*07:38e, DRB1*07:39e, DRB1*07:40e, DRB1*07:41e, DRB1*07:42e, DRB1*07:43e, DRB1*07:44e, DRB1*07:45e, DRB1*07:46e, DRB1*07:47e, DRB1*07:48e, DRB1*07:49e, DRB1*07:51e, DRB1*07:52e, DRB1*07:53e, DRB1*07:54e, DRB1*07:55e, DRB1*07:56e, DRB1*07:57e, DRB1*07:58Ne, DRB1*07:59e, DRB1*07:60e, DRB1*07:61e, DRB1*07:62e, DRB1*07:63e, DRB1*07:64e, DRB1*07:65e, DRB1*07:66e, DRB1*07:67e, DRB1*07:68Ne

HLA-DRB345

group	allele	antigen
DRB4*01	DRB4*01:03:01:01, DRB4*01:03:03; DRB4*01:03:01:03e, DRB4*01:03:02d, DRB4*01:03:04e, DRB4*01:05e	DR53
	DRB4*01:04e, DRB4*01:07e, DRB4*01:08e, DRB4*01:09e, DRB4*01:10e	-
DRB4*01:03:01:02N	DRB4*01:03:01:02N	Null

HLA-DQA1

group	allele	antigen
DQA1*02	DQA1*02:01	-
DQA1*03	DQA1*03:01:01; DQA1*03:01:03e	-

HLA-DQB1

group	allele	antigen
DQB1*03	DQB1*03:03:02:01; DQB1*03:03:02:02e, DQB1*03:03:02:03e, DQB1*03:03:02:04e, DQB1*03:03:03e, DQB1*03:03:04e, DQB1*03:03:05e, DQB1*03:03:06e, DQB1*03:03:07e, DQB1*03:03:08e, DQB1*03:03:09e, DQB1*03:03:10e, DQB1*03:03:11e, DQB1*03:03:12e, DQB1*03:03:13e	DQ9
	DQB1*03:12e, DQB1*03:15e, DQB1*03:20e, DQB1*03:26e, DQB1*03:30e, DQB1*03:31e, DQB1*03:33e, DQB1*03:34e, DQB1*03:39e, DQB1*03:40e, DQB1*03:41e, DQB1*03:43e, DQB1*03:65e, DQB1*03:79e, DQB1*03:86e, DQB1*03:87e, DQB1*03:88e, DQB1*03:89e, DQB1*03:90Ne, DQB1*03:91Qe, DQB1*03:96e, DQB1*03:97e, DQB1*03:98e, DQB1*03:99Qe, DQB1*03:104e, DQB1*03:105e, DQB1*03:111e, DQB1*03:112e, DQB1*03:117e, DQB1*03:123e, DQB1*03:124e, DQB1*03:126e, DQB1*03:136e, DQB1*03:137e, DQB1*03:141e, DQB1*03:145e, DQB1*03:149e, DQB1*03:155e, DQB1*03:156e, DQB1*03:168e, DQB1*03:176e, DQB1*03:177e, DQB1*03:200e, DQB1*03:209e, DQB1*03:212e, DQB1*03:217e	-
DQB1*03	DQB1*03:02:01; DQB1*03:02:02d, DQB1*03:02:03e, DQB1*03:02:04e, DQB1*03:02:05e, DQB1*03:02:06e, DQB1*03:02:07e, DQB1*03:02:08e, DQB1*03:02:09e, DQB1*03:02:10e, DQB1*03:02:11e, DQB1*03:02:12e, DQB1*03:02:13e, DQB1*03:02:14e, DQB1*03:02:15e, DQB1*03:02:16e, DQB1*03:02:17e, DQB1*03:02:18e, DQB1*03:02:19e	DQ8
	DQB1*03:07e, DQB1*03:08e, DQB1*03:11e, DQB1*03:14:01e, DQB1*03:14:02e, DQB1*03:18e, DQB1*03:32e, DQB1*03:37e, DQB1*03:45e, DQB1*03:62e, DQB1*03:63e, DQB1*03:64e, DQB1*03:66Ne, DQB1*03:67e, DQB1*03:68e, DQB1*03:70e, DQB1*03:81e, DQB1*03:85e, DQB1*03:106e, DQB1*03:107e, DQB1*03:125e, DQB1*03:138e, DQB1*03:146e, DQB1*03:153e, DQB1*03:161e, DQB1*03:174e, DQB1*03:175e, DQB1*03:178e, DQB1*03:179e, DQB1*03:185e, DQB1*03:189e, DQB1*03:190e, DQB1*03:199e, DQB1*03:203e, DQB1*03:204e, DQB1*03:205e, DQB1*03:210e, DQB1*03:211e, DQB1*03:213Ne, DQB1*03:214e, DQB1*03:215e, DQB1*03:220e	-

HLA-DPA1

group	allele	antigen
DPA1*01	DPA1*01:03:01:01, DPA1*01:04; DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-
DPA1*01	DPA1*01:03:01:01, DPA1*01:04; DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-

HLA-DPB1

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
	DPB1*04:01:01:01; DPB1*04:01:01:02e, DPB1*04:01:02e, DPB1*04:01:03e, DPB1*04:01:04e, DPB1*04:01:05e, DPB1*04:01:06e, DPB1*04:01:07e, DPB1*04:01:08e, DPB1*04:01:09e, DPB1*04:01:10e, DPB1*04:01:11e, DPB1*04:01:12e, DPB1*04:01:14e, DPB1*04:01:15e, DPB1*04:01:16e, DPB1*04:01:17e, DPB1*04:01:18e, DPB1*04:01:19e, DPB1*04:01:20e, DPB1*04:01:21e, DPB1*04:01:22e, DPB1*04:01:23e, DPB1*04:01:24e, DPB1*04:01:25e,						

EDP04	DPB1*04:01:26e, DPB1*04:01:27e, DPB1*04:01:28e, DPB1*04:01:29e, DPB1*04:01:30e, DPB1*04:01:31e / DPB1*99:01e / DPB1*120:01Ne / DPB1*121:01e / DPB1*128:01e / DPB1*134:01e / DPB1*149:01e / DPB1*169:01e / DPB1*174:01e / DPB1*175:01e / DPB1*180:01e / DPB1*181:01e / DPB1*192:01e / DPB1*194:01e / DPB1*195:01e / DPB1*212:01e / DPB1*213:01e / DPB1*224:01e / DPB1*225:01e / DPB1*228:01e / DPB1*231:01e / DPB1*232:01e / DPB1*240:01e / DPB1*253:01e / DPB1*255:01e / DPB1*262:01e / DPB1*272:01e / DPB1*275:01e / DPB1*276:01e / DPB1*281:01e / DPB1*282:01e / DPB1*283:01e / DPB1*298:01e / DPB1*320:01e / DPB1*323:01e / DPB1*334:01e / DPB1*335:01e / DPB1*336:01e / DPB1*341:01e / DPB1*350:01e / DPB1*356:01e / DPB1*360:01e / DPB1*372:01e / DPB1*376:01e / DPB1*378:01e / DPB1*396:01e / DPB1*397:01e / DPB1*415:01e / DPB1*418:01e / DPB1*425:01e / DPB1*426:01e / DPB1*428:01e / DPB1*434:01e / DPB1*453:01e / DPB1*455:01Ne / DPB1*459:01e / DPB1*464:01e / DPB1*465:01e / DPB1*468:01e / DPB1*475:01e / DPB1*476:01e / DPB1*479:01e / DPB1*485:01e / DPB1*486:01e / DPB1*487:01e / DPB1*497:01e / DPB1*500:01e / DPB1*520:01e / DPB1*521:01e / DPB1*522:01e / DPB1*523:01e / DPB1*524:01e / DPB1*529:01e / DPB1*534:01e	LFQG	EEFA	AAE	ILEEK	M	GGPM
EDP06	DPB1*06:01; DPB1*208:01e	VYQL	EEFV	DED	LLEEE	M	DEAV

This epitope was AUTOMATICALLY chosen because it is the only one which does not require a rare allele.

This epitope was chosen as the most likely; cannot exclude one or more rare epitopes.

HAPLOTYPES

B-C

B*57	C*06	AFA	API	EUR	HIS
57:01	06:02	0.434% (46)	1.990% (15)	3.701% (6)	0.852% (32)
57:01	06:15	-	0.028% (236)	-	-
57:01	06:10	-	-	0.006% (264)	-
57:01	06:03	-	-	0.006% (274)	-

B*15	C*07	AFA	API	EUR	HIS
15:18	07:04	0.083% (104)	0.455% (48)	0.121% (55)	0.301% (73)

DQB1-DRB1

DQB1*03	DRB1*04	AFA	API	EUR	HIS
03:02	04:04	0.650% (30)	0.618% (30)	3.557% (10)	4.912% (6)

DQB1*03	DRB1*07	AFA	API	EUR	HIS
03:03	07:01	0.540% (32)	1.721% (23)	3.642% (9)	1.484% (22)
03:02	07:01	0.217% (46)	-	0.015% (57)	-

TEST INFO

Sample ID : **AC-106**
 Patient ID : **AC-106**

Test Date : **4/13/2017**

Kit Name : **LinkSeq HLA ABCDRDQDP SABR**
 Kit Lot # : **K3415-A**
 Plate 1 ID : **EX061623-ARL**

SUMMARY

This session includes tests for A, B, C, DR, DQA, DQB, DPA, and DPB.

test	genotype	phenotype	test	genotype	phenotype
HLA-A	A*03 A*32	A3 A32	HLA-C	C*07 C*12	Cw7 Cw12
HLA-B	B*08 B*51	B8 B51	Bw		Bw4 Bw6
HLA-DRB1	DRB1*01 DRB1*03	DR1 DR17	HLA-DRB345	DRB3*02	DR52
HLA-DQA1	DQA1*01 DQA1*05	DQA1*01 DQA1*05	HLA-DQB1	DQB1*02 DQB1*05	DQ2 DQ5
HLA-DPA1	DPA1*01 DPA1*02	DPA1*01 DPA1*02			

test	epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
HLA-DPB1	EDP04	DPB1*04:01:01:01 (plus 103 rare alleles)	LFQG	EEFA	AAE	ILEEK	M	GGPM
	EDP10	DPB1*10:01:01:01 (plus 4 rare alleles)	VHQL	EEFV	DEE	ILEEE	V	DEAV

(Notice: Cannot exclude other combinations. Review all results.)

All test results are based on IMGT/HLA release: version 3.23.0 - January 2016

LABORATORY ASSIGNMENT

HLA-A : **A3 A32** HLA-B : **B8 B51** Bw : **Bw4 Bw6**

HLA-C : **Cw7 Cw12** HLA-DRB1 : **DR1 DR17** HLA-DRB345 : **DR52**

HLA-DQA1 : **DQA1*01**
DQA1*05 HLA-DQB1 : **DQ2 DQ5**

HLA-DPA1 : **DPA1*01**
DPA1*02 HLA-DPB1 : **DPB1*04:01:01:01**
DPB1*10:01:01:01

NOTES**REVIEW**

Analyzed By:

Signature:

Date:

Reviewed By:

Signature:

Date:

HLA-A		
group	allele	antigen
	A*03:01:01:01, A*03:02:01; A*03:01:01:03d, A*03:01:01:04e, A*03:01:01:05e, A*03:01:01:06e, A*03:01:02d, A*03:01:04e, A*03:01:05e, A*03:01:06e, A*03:01:07e, A*03:01:08e, A*03:01:09e, A*03:01:10e, A*03:01:11e, A*03:01:12e, A*03:01:13e, A*03:01:14e, A*03:01:15e, A*03:01:16e, A*03:01:17e, A*03:01:18e, A*03:01:20e, A*03:01:21e, A*03:01:22e, A*03:01:23e, A*03:01:24e, A*03:01:25e, A*03:01:26e, A*03:01:27e, A*03:01:28e, A*03:01:29e, A*03:01:30e, A*03:01:31e, A*03:01:32e, A*03:01:33e, A*03:01:34e, A*03:01:35e, A*03:01:36e, A*03:01:37e, A*03:01:40e, A*03:01:41e, A*03:01:42e, A*03:01:43e, A*03:01:44e, A*03:01:45e, A*03:01:46e, A*03:01:47e, A*03:01:48e, A*03:01:49e, A*03:01:50e, A*03:01:51e, A*03:01:52e, A*03:01:53e, A*03:01:54e, A*03:01:55e, A*03:01:56e, A*03:02:02e, A*03:02:03e, A*03:02:04e, A*03:04:01e, A*03:04:02e, A*03:04:03e, A*03:20e	A3
	A*03:01:01:02Ne, A*03:03Ne, A*03:11Ne, A*03:21Nd	<i>Null</i>
A*03	A*03:06d, A*03:07d, A*03:08d, A*03:09d, A*03:12e, A*03:13e, A*03:14e, A*03:15e, A*03:16e, A*03:17:02e, A*03:19e, A*03:22:01d, A*03:22:02e, A*03:23:02e, A*03:25e, A*03:26d, A*03:27e, A*03:28e, A*03:29e, A*03:31e, A*03:32e, A*03:33e, A*03:34e, A*03:35e, A*03:37e, A*03:38e, A*03:39e, A*03:40e, A*03:44:01e, A*03:44:02e, A*03:45e, A*03:46e, A*03:47e, A*03:48e, A*03:49e, A*03:50d, A*03:51e, A*03:52e, A*03:53e, A*03:54e, A*03:55e, A*03:56e, A*03:58e, A*03:59e, A*03:60e, A*03:61e, A*03:62e, A*03:63e, A*03:64e, A*03:65e, A*03:66e, A*03:67e, A*03:68Ne, A*03:69Ne, A*03:70e, A*03:71e, A*03:72e, A*03:73e, A*03:74e, A*03:75e, A*03:76e, A*03:77e, A*03:78e, A*03:79e, A*03:80e, A*03:81e, A*03:83e, A*03:84e, A*03:85e, A*03:86e, A*03:87e, A*03:88e, A*03:89:02e, A*03:90e, A*03:91Ne, A*03:92e, A*03:93e, A*03:94e, A*03:95e, A*03:96e, A*03:97e, A*03:98e, A*03:99e, A*03:100e, A*03:101e, A*03:102e, A*03:103e, A*03:104e, A*03:105e, A*03:106e, A*03:108d, A*03:110e, A*03:111e, A*03:112e, A*03:113e, A*03:114e, A*03:115e, A*03:116e, A*03:117e, A*03:118e, A*03:119e, A*03:120e, A*03:121e, A*03:123:01e, A*03:123:02e, A*03:124e, A*03:125e, A*03:126e, A*03:127e, A*03:128e, A*03:129Ne, A*03:130e, A*03:131e, A*03:132e, A*03:133e, A*03:134e, A*03:136e, A*03:137e, A*03:138e, A*03:139e, A*03:140e, A*03:141e, A*03:142e, A*03:143e, A*03:144e, A*03:145e, A*03:146e, A*03:147e, A*03:148e, A*03:149e, A*03:150e, A*03:151e, A*03:153e, A*03:154:01e, A*03:154:02e, A*03:155e, A*03:156e, A*03:157:01e, A*03:157:02e, A*03:158e, A*03:159e, A*03:160e, A*03:161Ne, A*03:162Ne, A*03:163e, A*03:164e, A*03:165e, A*03:166e, A*03:168Ne, A*03:169e, A*03:170e, A*03:172e, A*03:173e, A*03:174e, A*03:175e, A*03:176e, A*03:177e, A*03:178Ne, A*03:179e, A*03:180e, A*03:181e, A*03:182e, A*03:183e, A*03:184e, A*03:185e, A*03:188e, A*03:189e, A*03:190e, A*03:191e, A*03:192Ne, A*03:193e, A*03:195e, A*03:196e, A*03:197Ne, A*03:198e, A*03:199e, A*03:200Qe, A*03:201e, A*03:202e, A*03:203e, A*03:204e, A*03:205e, A*03:206e, A*03:207e, A*03:208e, A*03:209e, A*03:210e, A*03:211e, A*03:212e, A*03:213e, A*03:214e, A*03:215e, A*03:216e, A*03:217e, A*03:218e, A*03:220e, A*03:221e, A*03:222e, A*03:223e, A*03:224e, A*03:226e, A*03:227e, A*03:228e, A*03:229e, A*03:230e, A*03:232e, A*03:233e, A*03:234Qe, A*03:235e, A*03:236e, A*03:237e, A*03:238e, A*03:239e, A*03:240e, A*03:241e, A*03:242e	-
A*32	A*32:01:01; A*32:01:02e, A*32:01:03e, A*32:01:04e, A*32:01:05e, A*32:01:06e, A*32:01:07e, A*32:01:08e, A*32:01:09e, A*32:01:10e, A*32:01:11e, A*32:01:12e, A*32:01:13e, A*32:01:14e, A*32:01:15e, A*32:01:16e, A*32:01:17e, A*32:01:19e, A*32:01:20e, A*32:01:21e, A*32:01:22e, A*32:01:23e, A*32:02d, A*32:14e	A32
	A*32:03d, A*32:05e, A*32:06d, A*32:08d, A*32:09e, A*32:10e, A*32:11Qe, A*32:12e, A*32:13e, A*32:16e, A*32:17e, A*32:18e, A*32:19Ne, A*32:20e, A*32:21e, A*32:22e, A*32:23e, A*32:25e, A*32:26e, A*32:27Ne, A*32:29e, A*32:30e, A*32:31e, A*32:32e, A*32:33:01e, A*32:33:02e, A*32:34e, A*32:35e, A*32:36e, A*32:37e, A*32:38e, A*32:39e, A*32:40e, A*32:41e, A*32:43e, A*32:44e, A*32:45Ne, A*32:46e, A*32:47e, A*32:48Ne, A*32:49e, A*32:50e, A*32:51e, A*32:52e, A*32:53e, A*32:54e, A*32:55:01e, A*32:55:02e, A*32:56Ne, A*32:57e, A*32:58e, A*32:59e, A*32:60e, A*32:61e, A*32:62e, A*32:63e, A*32:65e, A*32:67e, A*32:68e, A*32:69e, A*32:70e, A*32:71e, A*32:72e, A*32:73e, A*32:74e, A*32:75e, A*32:76e, A*32:77e, A*32:78e, A*32:80e, A*32:81e, A*32:82e, A*32:83e, A*32:84e	-
HLA-B		
group	allele	antigen
	B*08:01:01; B*08:01:02e, B*08:01:03e, B*08:01:04e, B*08:01:05e, B*08:01:06e, B*08:01:07e, B*08:01:08e, B*08:01:09e, B*08:01:10e, B*08:01:11e, B*08:01:12e, B*08:01:13e, B*08:01:14e, B*08:01:15e, B*08:01:16e, B*08:01:17e, B*08:01:18e, B*08:01:19e, B*08:01:20e, B*08:01:21e, B*08:01:22e, B*08:01:23e, B*08:01:24e, B*08:01:25e, B*08:01:26e, B*08:01:27e, B*08:01:28e, B*08:01:29e, B*08:01:30e, B*08:01:31e, B*08:01:32e, B*08:07d, B*08:10e, B*08:15e, B*08:16e, B*08:18d	B8
	B*08:08Ne, B*08:19Ne, B*08:30Ne	<i>Null</i>
B*08	B*08:11e, B*08:12:01e, B*08:12:02e, B*08:13d, B*08:20d, B*08:21e, B*08:22e, B*08:24e, B*08:25e, B*08:27e, B*08:28e, B*08:31e, B*08:33e, B*08:34e, B*08:35d, B*08:36e, B*08:37e, B*08:38e, B*08:39e, B*08:40e, B*08:41e, B*08:42e, B*08:43e, B*08:44e, B*08:45e, B*08:46e, B*08:47e, B*08:48e, B*08:50e, B*08:51e, B*08:53:01e, B*08:53:02e, B*08:57e, B*08:58e, B*08:59:01e, B*08:59:02e, B*08:60e, B*08:61e, B*08:63e, B*08:64e, B*08:66e, B*08:67Ne, B*08:68e, B*08:69e, B*08:70e, B*08:71e, B*08:72Ne, B*08:73e, B*08:74e, B*08:75e, B*08:76e, B*08:77e, B*08:80e, B*08:81e, B*08:82Ne, B*08:83e, B*08:85e, B*08:86Ne, B*08:89e, B*08:90e, B*08:91e, B*08:92e, B*08:93e, B*08:95e, B*08:96e, B*08:97e, B*08:98e, B*08:99e, B*08:100e, B*08:101e, B*08:103e, B*08:104e, B*08:105e, B*08:106e, B*08:108e, B*08:109e, B*08:111e, B*08:112e, B*08:113e, B*08:114e, B*08:115e, B*08:116e, B*08:119e, B*08:120e, B*08:121e, B*08:124e, B*08:125e, B*08:127e, B*08:128e, B*08:129e, B*08:130e, B*08:131e, B*08:134e, B*08:135e, B*08:136e, B*08:137e, B*08:138e, B*08:139e, B*08:140e, B*08:142e, B*08:143e, B*08:144e, B*08:145e, B*08:147e, B*08:149e, B*08:150e, B*08:152e, B*08:153e, B*08:154e, B*08:157e, B*08:158e	-
	B*51:16e	B5
	B*51:01:01:01, B*51:08:01, B*51:09:01; B*51:01:01:02e, B*51:01:02d, B*51:01:03e, B*51:01:04e, B*51:01:05e, B*51:01:06e, B*51:01:07e, B*51:01:08e, B*51:01:09e, B*51:01:10e, B*51:01:11e, B*51:01:12e, B*51:01:13e, B*51:01:14e, B*51:01:15e, B*51:01:16e, B*51:01:17e, B*51:01:18e, B*51:01:19e, B*51:01:20e, B*51:01:21e, B*51:01:22e, B*51:01:23e, B*51:01:24e, B*51:01:25e, B*51:01:26e, B*51:01:27e, B*51:01:28e, B*51:01:29e, B*51:01:30e, B*51:01:31e, B*51:01:32e, B*51:01:33e, B*51:01:34e, B*51:01:35e, B*51:01:36e, B*51:01:37e, B*51:01:38e, B*51:01:39e, B*51:01:40e, B*51:01:41e, B*51:01:42e, B*51:01:43e, B*51:01:44e, B*51:01:45e,	B51

B*51	B*51:01:46e, B*51:01:47e, B*51:01:48e, B*51:01:49e, B*51:01:50e, B*51:01:51e, B*51:01:52e, B*51:04d, B*51:06:02e, B*51:08:02e, B*51:09:02e, B*51:09:03e, B*51:14d, B*51:17d, B*51:18e, B*51:24:01e, B*51:24:02e, B*51:24:03e, B*51:24:04e, B*51:24:05e, B*51:28e, B*51:31e, B*51:35e, B*51:43d, B*51:46e	
	B*51:03d	B5103
	B*51:27Ne, B*51:41Ne, B*51:44Ne	Null
	B*51:12e, B*51:13:02d, B*51:19d, B*51:20e, B*51:21d, B*51:26e, B*51:30e, B*51:32e, B*51:33e, B*51:37e, B*51:38e, B*51:39e, B*51:48e, B*51:49d, B*51:50d, B*51:51e, B*51:52e, B*51:53e, B*51:55d, B*51:57e, B*51:58e, B*51:60e, B*51:61:01e, B*51:61:02e, B*51:63e, B*51:65e, B*51:66e, B*51:67e, B*51:68e, B*51:69e, B*51:70e, B*51:71e, B*51:72e, B*51:73e, B*51:75e, B*51:76e, B*51:77e, B*51:78:01e, B*51:78:02e, B*51:79e, B*51:80e, B*51:83e, B*51:84e, B*51:85e, B*51:86e, B*51:87e, B*51:88e, B*51:89e, B*51:90e, B*51:91e, B*51:92:02e, B*51:94e, B*51:95e, B*51:96e, B*51:97e, B*51:98Ne, B*51:99e, B*51:100e, B*51:102e, B*51:105e, B*51:106e, B*51:107e, B*51:109e, B*51:110Ne, B*51:111e, B*51:113e, B*51:114e, B*51:115e, B*51:117e, B*51:119e, B*51:120e, B*51:121e, B*51:123e, B*51:124e, B*51:125e, B*51:126e, B*51:127e, B*51:128e, B*51:129e, B*51:130e, B*51:131e, B*51:132e, B*51:133e, B*51:134e, B*51:136e, B*51:137e, B*51:138e, B*51:139e, B*51:140e, B*51:141e, B*51:142e, B*51:145e, B*51:149Ne, B*51:150e, B*51:151e, B*51:152e, B*51:153e, B*51:154e, B*51:155e, B*51:156e, B*51:159e, B*51:160e, B*51:161e, B*51:162e, B*51:163e, B*51:164e, B*51:165e, B*51:166e, B*51:167e, B*51:168e, B*51:169e, B*51:170e, B*51:171e, B*51:172e, B*51:173Qe, B*51:174e, B*51:175e, B*51:177e, B*51:178Ne, B*51:181e, B*51:182e, B*51:183e, B*51:184Ne, B*51:186e, B*51:187e, B*51:188e, B*51:189e, B*51:190e, B*51:191e, B*51:192e, B*51:193e, B*51:195e, B*51:196e, B*51:198e, B*51:200e	-
This genotype was chosen as the most likely; cannot exclude one or more rare genotypes.		

Bw

allele	antigen
B*51:01:01:01, B*51:08:01, B*51:09:01; B*51:01:01:02e, B*51:01:02d, B*51:01:03e, B*51:01:04e, B*51:01:05e, B*51:01:06e, B*51:01:07e, B*51:01:08e, B*51:01:09e, B*51:01:10e, B*51:01:11e, B*51:01:12e, B*51:01:13e, B*51:01:14e, B*51:01:15e, B*51:01:16e, B*51:01:17e, B*51:01:18e, B*51:01:19e, B*51:01:20e, B*51:01:21e, B*51:01:22e, B*51:01:23e, B*51:01:24e, B*51:01:25e, B*51:01:26e, B*51:01:27e, B*51:01:28e, B*51:01:29e, B*51:01:30e, B*51:01:31e, B*51:01:32e, B*51:01:33e, B*51:01:34e, B*51:01:35e, B*51:01:36e, B*51:01:37e, B*51:01:38e, B*51:01:39e, B*51:01:40e, B*51:01:41e, B*51:01:42e, B*51:01:43e, B*51:01:44e, B*51:01:45e, B*51:01:46e, B*51:01:47e, B*51:01:48e, B*51:01:49e, B*51:01:50e, B*51:01:51e, B*51:01:52e, B*51:03d, B*51:04d, B*51:06:02e, B*51:08:02e, B*51:09:02e, B*51:09:03e, B*51:12e, B*51:13:02d, B*51:14d, B*51:16e, B*51:17d, B*51:18e, B*51:19d, B*51:20e, B*51:21d, B*51:24:01e, B*51:24:02e, B*51:24:03e, B*51:24:04e, B*51:24:05e, B*51:26e, B*51:27Ne, B*51:28e, B*51:30e, B*51:31e, B*51:32e, B*51:33e, B*51:35e, B*51:37e, B*51:38e, B*51:39e, B*51:41Ne, B*51:43d, B*51:44Ne, B*51:46e, B*51:48e, B*51:49d, B*51:50d, B*51:51e, B*51:52e, B*51:53e, B*51:55d, B*51:57e, B*51:58e, B*51:60e, B*51:61:01e, B*51:61:02e, B*51:63e, B*51:65e, B*51:66e, B*51:67e, B*51:68e, B*51:69e, B*51:70e, B*51:71e, B*51:72e, B*51:73e, B*51:75e, B*51:76e, B*51:77e, B*51:78:01e, B*51:78:02e, B*51:79e, B*51:80e, B*51:83e, B*51:84e, B*51:85e, B*51:86e, B*51:87e, B*51:88e, B*51:89e, B*51:90e, B*51:91e, B*51:92:02e, B*51:94e, B*51:95e, B*51:96e, B*51:97e, B*51:98Ne, B*51:99e, B*51:100e, B*51:102e, B*51:105e, B*51:106e, B*51:107e, B*51:109e, B*51:110Ne, B*51:111e, B*51:113e, B*51:114e, B*51:115e, B*51:117e, B*51:119e, B*51:120e, B*51:121e, B*51:123e, B*51:124e, B*51:125e, B*51:126e, B*51:127e, B*51:128e, B*51:129e, B*51:130e, B*51:131e, B*51:132e, B*51:133e, B*51:134e, B*51:136e, B*51:137e, B*51:138e, B*51:139e, B*51:140e, B*51:141e, B*51:142e, B*51:145e, B*51:149Ne, B*51:150e, B*51:151e, B*51:152e, B*51:153e, B*51:154e, B*51:155e, B*51:156e, B*51:159e, B*51:160e, B*51:161e, B*51:162e, B*51:163e, B*51:164e, B*51:165e, B*51:166e, B*51:167e, B*51:168e, B*51:169e, B*51:170e, B*51:171e, B*51:172e, B*51:173Qe, B*51:174e, B*51:175e, B*51:177e, B*51:178Ne, B*51:181e, B*51:182e, B*51:183e, B*51:184Ne, B*51:186e, B*51:187e, B*51:188e, B*51:189e, B*51:190e, B*51:191e, B*51:192e, B*51:193e, B*51:195e, B*51:196e, B*51:198e, B*51:200e	Bw4
B*08:01:01; B*08:01:02e, B*08:01:03e, B*08:01:04e, B*08:01:05e, B*08:01:06e, B*08:01:07e, B*08:01:08e, B*08:01:09e, B*08:01:10e, B*08:01:11e, B*08:01:12e, B*08:01:13e, B*08:01:14e, B*08:01:15e, B*08:01:16e, B*08:01:17e, B*08:01:18e, B*08:01:19e, B*08:01:20e, B*08:01:21e, B*08:01:22e, B*08:01:23e, B*08:01:24e, B*08:01:25e, B*08:01:26e, B*08:01:27e, B*08:01:28e, B*08:01:29e, B*08:01:30e, B*08:01:31e, B*08:01:32e, B*08:07d, B*08:08Ne, B*08:10e, B*08:11e, B*08:12:01e, B*08:12:02e, B*08:13d, B*08:15e, B*08:16e, B*08:18d, B*08:19Ne, B*08:20d, B*08:21e, B*08:22e, B*08:24e, B*08:25e, B*08:27e, B*08:28e, B*08:30Ne, B*08:31e, B*08:33e, B*08:35d, B*08:36e, B*08:37e, B*08:38e, B*08:39e, B*08:40e, B*08:41e, B*08:42e, B*08:43e, B*08:44e, B*08:45e, B*08:46e, B*08:47e, B*08:48e, B*08:50e, B*08:51e, B*08:53:01e, B*08:53:02e, B*08:57e, B*08:58e, B*08:59:01e, B*08:59:02e, B*08:60e, B*08:61e, B*08:63e, B*08:64e, B*08:66e, B*08:67Ne, B*08:68e, B*08:69e, B*08:70e, B*08:71e, B*08:72Ne, B*08:73e, B*08:74e, B*08:75e, B*08:76e, B*08:77e, B*08:80e, B*08:81e, B*08:82Ne, B*08:83e, B*08:85e, B*08:86Ne, B*08:89e, B*08:90e, B*08:91e, B*08:92e, B*08:93e, B*08:95e, B*08:96e, B*08:97e, B*08:98e, B*08:99e, B*08:100e, B*08:101e, B*08:103e, B*08:104e, B*08:105e, B*08:106e, B*08:108e, B*08:109e, B*08:111e, B*08:112e, B*08:113e, B*08:114e, B*08:115e, B*08:116e, B*08:119e, B*08:120e, B*08:121e, B*08:124e, B*08:125e, B*08:127e, B*08:128e, B*08:129e, B*08:130e, B*08:131e, B*08:134e, B*08:135e, B*08:136e, B*08:137e, B*08:138e, B*08:139e, B*08:140e, B*08:142e, B*08:143e, B*08:144e, B*08:145e, B*08:147e, B*08:149e, B*08:150e, B*08:152e, B*08:153e, B*08:154e, B*08:157e, B*08:158e	Bw6

HLA-C

group	allele	antigen
	C*07:02:01:01; C*07:02:01:02e, C*07:02:01:03d, C*07:02:01:04e, C*07:02:01:05e, C*07:02:01:06e, C*07:02:02e, C*07:02:03e, C*07:02:04e, C*07:02:05e, C*07:02:06e, C*07:02:07e, C*07:02:08e, C*07:02:10e, C*07:02:11e, C*07:02:12e, C*07:02:13e, C*07:02:14e, C*07:02:15e, C*07:02:16e, C*07:02:17e, C*07:02:18e, C*07:02:19e, C*07:02:20e, C*07:02:21e, C*07:02:22e, C*07:02:23e, C*07:02:24e, C*07:02:25e, C*07:02:26e, C*07:02:27e, C*07:02:28e, C*07:02:29e, C*07:02:30e, C*07:02:31e, C*07:02:33e, C*07:02:34e, C*07:02:35e, C*07:02:36e, C*07:02:37e, C*07:02:38e, C*07:02:39e, C*07:02:40e, C*07:02:41e, C*07:02:42e, C*07:02:43e, C*07:02:44e, C*07:02:45e, C*07:02:46e, C*07:02:47e, C*07:02:48e, C*07:02:49e, C*07:02:50e, C*07:02:51e, C*07:02:52e, C*07:02:53e, C*07:02:54e, C*07:02:56e, C*07:02:57e, C*07:02:58e, C*07:02:59e, C*07:02:60e, C*07:02:61e, C*07:02:62e, C*07:02:63e, C*07:02:64e, C*07:02:65e, C*07:02:66e, C*07:02:67e, C*07:02:68e, C*07:02:69e, C*07:02:70e, C*07:02:71e, C*07:37e, C*07:38:01e, C*07:38:02e, C*07:49e	Cw7
	C*07:32Nd, C*07:33Ne	Null
	C*07:03e, C*07:10d, C*07:13d, C*07:15e, C*07:17:01d, C*07:23e, C*07:25d, C*07:29:01d, C*07:42e, C*07:46d, C*07:47e,	

C*07	C*07:48e, C*07:50e, C*07:51e, C*07:54e, C*07:56:01d, C*07:56:02e, C*07:61Nd, C*07:62e, C*07:66d, C*07:67d, C*07:72d, C*07:74e, C*07:75e, C*07:76:01e, C*07:76:02e, C*07:79e, C*07:80e, C*07:84e, C*07:87e, C*07:88e, C*07:90e, C*07:97e, C*07:99e, C*07:100e, C*07:102e, C*07:105e, C*07:107e, C*07:114e, C*07:117e, C*07:121Qe, C*07:123e, C*07:125e, C*07:126e, C*07:127e, C*07:130e, C*07:133e, C*07:135e, C*07:136e, C*07:137:01e, C*07:137:02e, C*07:138e, C*07:143e, C*07:144e, C*07:145e, C*07:146e, C*07:147e, C*07:149e, C*07:152Ne, C*07:154e, C*07:155e, C*07:157e, C*07:158e, C*07:159e, C*07:160e, C*07:167e, C*07:168e, C*07:169e, C*07:171e, C*07:174e, C*07:175e, C*07:178e, C*07:183e, C*07:185e, C*07:186e, C*07:187e, C*07:192e, C*07:193e, C*07:194e, C*07:195e, C*07:198Ne, C*07:202e, C*07:208e, C*07:209e, C*07:211e, C*07:213e, C*07:216e, C*07:217e, C*07:218e, C*07:220e, C*07:221e, C*07:226e, C*07:229e, C*07:232e, C*07:233e, C*07:234e, C*07:239e, C*07:240e, C*07:243e, C*07:244e, C*07:245e, C*07:251e, C*07:252e, C*07:258e, C*07:259e, C*07:260e, C*07:261e, C*07:262e, C*07:264Ne, C*07:270e, C*07:271e, C*07:273e, C*07:274e, C*07:275e, C*07:283e, C*07:284e, C*07:285e, C*07:286e, C*07:287e, C*07:288e, C*07:289e, C*07:290e, C*07:291e, C*07:305e, C*07:306e, C*07:308e, C*07:309e, C*07:312e, C*07:314:01e, C*07:316e, C*07:318e, C*07:319e, C*07:320e, C*07:321e, C*07:322e, C*07:325e, C*07:326e, C*07:327e, C*07:333e, C*07:334e, C*07:339e, C*07:340e, C*07:341e, C*07:344e, C*07:345e, C*07:346e, C*07:348e, C*07:349e, C*07:350Ne, C*07:351e, C*07:352e, C*07:356e, C*07:359e, C*07:360e, C*07:363e, C*07:367e, C*07:368e, C*07:372e, C*07:373e, C*07:374e, C*07:375e, C*07:376e, C*07:379e, C*07:381e, C*07:382e, C*07:383e, C*07:384e, C*07:388e, C*07:389e, C*07:391e, C*07:392e, C*07:396e, C*07:397e, C*07:398e, C*07:399e, C*07:400e, C*07:401e, C*07:402e, C*07:405e, C*07:409e, C*07:413e, C*07:414e, C*07:415e, C*07:416e, C*07:423e, C*07:425e, C*07:429e, C*07:432e, C*07:433e, C*07:434e, C*07:436e, C*07:438e, C*07:439e, C*07:446e, C*07:449e, C*07:451Ne, C*07:452Ne, C*07:456e, C*07:457e, C*07:464e, C*07:465e, C*07:472e, C*07:473e, C*07:474e, C*07:477e, C*07:478e, C*07:482e, C*07:483Ne, C*07:484Ne, C*07:485e, C*07:486e	-
C*12	C*12:03:01:01; C*12:03:01:02e, C*12:03:01:03e, C*12:03:02e, C*12:03:03e, C*12:03:05e, C*12:03:06e, C*12:03:07e, C*12:03:08e, C*12:03:10e, C*12:03:11e, C*12:03:12e, C*12:03:13e, C*12:03:14e, C*12:03:15e, C*12:03:18e, C*12:03:20e, C*12:03:21e, C*12:03:22e, C*12:03:24e, C*12:03:25e, C*12:03:26e, C*12:03:28e, C*12:03:29e, C*12:03:31e, C*12:03:33e, C*12:03:35e, C*12:03:36e, C*12:03:37e, C*12:06e, C*12:07e, C*12:11e, C*12:12d, C*12:13d, C*12:15e, C*12:19e, C*12:20e, C*12:23e, C*12:24e, C*12:25e, C*12:26e, C*12:29e, C*12:31e, C*12:32e, C*12:34e, C*12:35e, C*12:37e, C*12:38e, C*12:39Ne, C*12:42Qe, C*12:43e, C*12:45e, C*12:46Ne, C*12:47e, C*12:48e, C*12:50e, C*12:51e, C*12:52e, C*12:53e, C*12:54e, C*12:57e, C*12:58e, C*12:59e, C*12:61e, C*12:62e, C*12:63e, C*12:65e, C*12:66e, C*12:70e, C*12:71e, C*12:75e, C*12:76e, C*12:77e, C*12:78e, C*12:79e, C*12:82e, C*12:87e, C*12:88e, C*12:89e, C*12:90e, C*12:91e, C*12:92e, C*12:93e, C*12:94e, C*12:95e, C*12:97e, C*12:98e, C*12:99e, C*12:100e, C*12:101e, C*12:102e, C*12:107e, C*12:108e, C*12:109e, C*12:110e, C*12:111e, C*12:113e, C*12:115e, C*12:116e, C*12:120e, C*12:121e, C*12:122e, C*12:125e, C*12:129e, C*12:131e, C*12:133e, C*12:138e, C*12:139e, C*12:140e, C*12:141e, C*12:143e, C*12:144e, C*12:147e, C*12:149e, C*12:150e, C*12:152e, C*12:153e, C*12:156e, C*12:157e, C*12:158e, C*12:159e, C*12:160e, C*12:163e, C*12:165e, C*12:167e, C*12:170e, C*12:172e	-
This genotype was chosen as the most likely; cannot exclude one or more rare genotypes.		

HLA-DR

HLA-DRB1

group	allele	antigen
DRB1*01	DRB1*01:01:01, DRB1*01:01:02; DRB1*01:01:03e, DRB1*01:01:04e, DRB1*01:01:05e, DRB1*01:01:06e, DRB1*01:01:07e, DRB1*01:01:08e, DRB1*01:01:09e, DRB1*01:01:10e, DRB1*01:01:11e, DRB1*01:01:12e, DRB1*01:01:13e, DRB1*01:01:14e, DRB1*01:01:15e, DRB1*01:01:16e, DRB1*01:01:17e, DRB1*01:01:18e, DRB1*01:01:19e, DRB1*01:01:20e, DRB1*01:01:21e, DRB1*01:01:22e, DRB1*01:01:23e, DRB1*01:01:24e, DRB1*01:01:25e, DRB1*01:01:26e, DRB1*01:01:27e, DRB1*01:01:28e, DRB1*01:01:29e, DRB1*01:01:04d, DRB1*01:07d, DRB1*01:09e, DRB1*01:13e DRB1*01:05e, DRB1*01:06e, DRB1*01:08e, DRB1*01:11:01d, DRB1*01:11:02e, DRB1*01:12e, DRB1*01:14e, DRB1*01:16e, DRB1*01:18e, DRB1*01:19e, DRB1*01:20:01e, DRB1*01:20:02e, DRB1*01:21e, DRB1*01:22e, DRB1*01:25e, DRB1*01:27e, DRB1*01:28e, DRB1*01:29:01e, DRB1*01:29:02e, DRB1*01:30e, DRB1*01:31e, DRB1*01:32e, DRB1*01:36e, DRB1*01:37e, DRB1*01:38e, DRB1*01:40Ne, DRB1*01:41e, DRB1*01:45e, DRB1*01:47e, DRB1*01:48e, DRB1*01:49e, DRB1*01:50e, DRB1*01:52Ne, DRB1*01:53e, DRB1*01:55e, DRB1*01:56e, DRB1*01:59e, DRB1*01:60e, DRB1*01:62Ne, DRB1*01:63e, DRB1*01:64e, DRB1*01:65:01e, DRB1*01:65:02e, DRB1*01:66e, DRB1*01:67e, DRB1*01:68Ne, DRB1*01:69e, DRB1*01:70e, DRB1*01:71e, DRB1*01:72e	DR1 -
DRB1*03	DRB1*03:06d, DRB1*03:23d DRB1*03:01:01:01; DRB1*03:01:01:02e, DRB1*03:01:02d, DRB1*03:01:03e, DRB1*03:01:04e, DRB1*03:01:05e, DRB1*03:01:07e, DRB1*03:01:08e, DRB1*03:01:09e, DRB1*03:01:10e, DRB1*03:01:11e, DRB1*03:01:12e, DRB1*03:01:13e, DRB1*03:01:14e, DRB1*03:01:15e, DRB1*03:01:16e, DRB1*03:01:17e, DRB1*03:01:18e, DRB1*03:01:19e, DRB1*03:01:20e, DRB1*03:01:21e, DRB1*03:01:22e, DRB1*03:01:23e, DRB1*03:01:24e, DRB1*03:01:25e, DRB1*03:01:26e, DRB1*03:01:25e, DRB1*03:04:01d, DRB1*03:04:02e, DRB1*03:11:01e DRB1*03:13:01e, DRB1*03:13:02e, DRB1*03:16d, DRB1*03:18e, DRB1*03:19e, DRB1*03:20e, DRB1*03:22d, DRB1*03:25e, DRB1*03:26e, DRB1*03:28e, DRB1*03:30e, DRB1*03:31e, DRB1*03:32e, DRB1*03:33e, DRB1*03:34e, DRB1*03:36e, DRB1*03:37e, DRB1*03:39e, DRB1*03:43e, DRB1*03:44e, DRB1*03:45e, DRB1*03:46e, DRB1*03:47e, DRB1*03:48e, DRB1*03:50e, DRB1*03:51e, DRB1*03:52e, DRB1*03:54e, DRB1*03:55e, DRB1*03:56e, DRB1*03:57e, DRB1*03:58e, DRB1*03:59e, DRB1*03:60e, DRB1*03:61e, DRB1*03:62e, DRB1*03:63e, DRB1*03:64e, DRB1*03:66e, DRB1*03:67Ne, DRB1*03:68Ne, DRB1*03:69e, DRB1*03:70e, DRB1*03:71:01e, DRB1*03:71:02e, DRB1*03:72e, DRB1*03:73e, DRB1*03:77e, DRB1*03:79e, DRB1*03:80e, DRB1*03:82e, DRB1*03:83e, DRB1*03:84e, DRB1*03:85e, DRB1*03:86e, DRB1*03:89e, DRB1*03:91e, DRB1*03:93e, DRB1*03:94e, DRB1*03:95e, DRB1*03:96e, DRB1*03:98e, DRB1*03:99e, DRB1*03:100:01e, DRB1*03:100:02e, DRB1*03:104e, DRB1*03:106e, DRB1*03:107e, DRB1*03:108e, DRB1*03:109e, DRB1*03:110e, DRB1*03:111e, DRB1*03:112e, DRB1*03:113e, DRB1*03:114e, DRB1*03:116e, DRB1*03:117e, DRB1*03:121e, DRB1*03:123e, DRB1*03:124e, DRB1*03:127e	DR3 DR17 -

HLA-DRB345

group	allele	antigen
	DRB3*02:01, DRB3*02:02:01:01, DRB3*02:10; DRB3*02:02:01:02e, DRB3*02:02:02d, DRB3*02:02:03e, DRB3*02:02:04e, DRB3*02:02:05e, DRB3*02:02:06e, DRB3*02:03d,	DR52

DRB3*02	DRB3*02:07e, DRB3*02:08e, DRB3*02:09e, DRB3*02:11d	-
	DRB3*02:04e, DRB3*02:05e, DRB3*02:06d, DRB3*02:12e, DRB3*02:13e, DRB3*02:14e, DRB3*02:15e, DRB3*02:16e, DRB3*02:17d, DRB3*02:18e, DRB3*02:19e, DRB3*02:20e, DRB3*02:21e, DRB3*02:22e, DRB3*02:23e, DRB3*02:24e, DRB3*02:25e, DRB3*02:26e, DRB3*02:27e, DRB3*02:28e, DRB3*02:29Ne, DRB3*02:30e, DRB3*02:31e, DRB3*02:32e, DRB3*02:33e	

HLA-DQA1

group	allele	antigen
DQA1*01	DQA1*01:01:01, DQA1*01:01:02; DQA1*01:01:03e, DQA1*01:06e, DQA1*01:08e, DQA1*01:09e, DQA1*01:10e, DQA1*01:12e, DQA1*01:13e	-
DQA1*05	DQA1*05:01:01:01; DQA1*05:01:01:02e, DQA1*05:01:02e, DQA1*05:02d, DQA1*05:04e, DQA1*05:06e	-

HLA-DQB1

group	allele	antigen
DQB1*02	DQB1*02:01:01; DQB1*02:01:02e, DQB1*02:01:03e, DQB1*02:01:04e, DQB1*02:01:05e, DQB1*02:01:06e, DQB1*02:01:07e, DQB1*02:01:08e, DQB1*02:01:09e, DQB1*02:01:10e, DQB1*02:01:11e, DQB1*02:01:12e, DQB1*02:01:13e, DQB1*02:01:14e, DQB1*02:01:15e, DQB1*02:01:16e, DQB1*02:01:17e, DQB1*02:01:18e, DQB1*02:01:19e, DQB1*02:01:20e, DQB1*02:01:21e, DQB1*02:01:22e, DQB1*02:01:23e, DQB1*02:02:02e	DQ2
	DQB1*02:04e, DQB1*02:05e, DQB1*02:06e, DQB1*02:07:01e, DQB1*02:07:02e, DQB1*02:08e, DQB1*02:09e, DQB1*02:10e, DQB1*02:11e, DQB1*02:12e, DQB1*02:13e, DQB1*02:14:01e, DQB1*02:14:02e, DQB1*02:15e, DQB1*02:16e, DQB1*02:17e, DQB1*02:18Ne, DQB1*02:19e, DQB1*02:20Ne, DQB1*02:21e, DQB1*02:22e, DQB1*02:23e, DQB1*02:24e, DQB1*02:25e, DQB1*02:26e, DQB1*02:27e, DQB1*02:28e, DQB1*02:29e, DQB1*02:30e, DQB1*02:31e, DQB1*02:32e, DQB1*02:33e, DQB1*02:34e, DQB1*02:35e, DQB1*02:36e, DQB1*02:37e, DQB1*02:38e, DQB1*02:39e, DQB1*02:40e, DQB1*02:41e, DQB1*02:42e, DQB1*02:43e, DQB1*02:44e, DQB1*02:45e, DQB1*02:46e, DQB1*02:47e, DQB1*02:48e, DQB1*02:49e, DQB1*02:50e, DQB1*02:51e, DQB1*02:52e, DQB1*02:53Qe, DQB1*02:55e, DQB1*02:56e, DQB1*02:57e, DQB1*02:58Ne, DQB1*02:59e, DQB1*02:60e, DQB1*02:61e, DQB1*02:62e, DQB1*02:63e, DQB1*02:64e, DQB1*02:65e	-
DQB1*05	DQB1*05:01:01:01; DQB1*05:01:01:02e, DQB1*05:01:01:03e, DQB1*05:01:02e, DQB1*05:01:03e, DQB1*05:01:04e, DQB1*05:01:05e, DQB1*05:01:06e, DQB1*05:01:07e, DQB1*05:01:08e, DQB1*05:01:09e, DQB1*05:01:10e, DQB1*05:01:11e, DQB1*05:01:12e, DQB1*05:01:13e, DQB1*05:01:14e, DQB1*05:01:15e, DQB1*05:01:16e, DQB1*05:01:17e, DQB1*05:01:18e, DQB1*05:01:19e, DQB1*05:01:20e, DQB1*05:01:21e, DQB1*05:01:22e	DQ5
	DQB1*05:07e, DQB1*05:11:01e, DQB1*05:11:02e, DQB1*05:12e, DQB1*05:18e, DQB1*05:20e, DQB1*05:21e, DQB1*05:22e, DQB1*05:25e, DQB1*05:27e, DQB1*05:29e, DQB1*05:30e, DQB1*05:31e, DQB1*05:32e, DQB1*05:44e, DQB1*05:45e, DQB1*05:48e, DQB1*05:49e, DQB1*05:54e, DQB1*05:55e, DQB1*05:61e, DQB1*05:62e, DQB1*05:63e, DQB1*05:68e, DQB1*05:69e, DQB1*05:70e, DQB1*05:72e, DQB1*05:73e, DQB1*05:74e, DQB1*05:75e, DQB1*05:76e, DQB1*05:80e, DQB1*05:81e, DQB1*05:84e, DQB1*05:88e, DQB1*05:89:01e, DQB1*05:89:02e, DQB1*05:92e, DQB1*05:93e, DQB1*05:95e, DQB1*05:99e, DQB1*05:103e, DQB1*05:104e, DQB1*05:105e, DQB1*05:107e, DQB1*05:110Ne, DQB1*05:111e, DQB1*05:112e, DQB1*05:114e, DQB1*05:115e	-

HLA-DPA1

group	allele	antigen
DPA1*01	DPA1*01:03:01:01, DPA1*01:04; DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-
DPA1*02	DPA1*02:01:01:01, DPA1*02:02:01; DPA1*02:01:01:02e, DPA1*02:01:02e, DPA1*02:01:03e, DPA1*02:01:04e, DPA1*02:01:05e, DPA1*02:01:06e, DPA1*02:01:07e, DPA1*02:01:08e, DPA1*02:02:02e, DPA1*02:02:03e, DPA1*02:02:04e, DPA1*02:02:05e, DPA1*02:02:06e, DPA1*02:03e, DPA1*02:04e, DPA1*02:05e, DPA1*02:06e	-

HLA-DPB1

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
	DPB1*04:01:01:01; DPB1*04:01:01:02e, DPB1*04:01:02e, DPB1*04:01:03e, DPB1*04:01:04e, DPB1*04:01:05e, DPB1*04:01:06e, DPB1*04:01:07e, DPB1*04:01:08e, DPB1*04:01:09e, DPB1*04:01:10e, DPB1*04:01:11e, DPB1*04:01:12e, DPB1*04:01:14e, DPB1*04:01:15e, DPB1*04:01:16e, DPB1*04:01:17e, DPB1*04:01:18e, DPB1*04:01:19e, DPB1*04:01:20e, DPB1*04:01:21e, DPB1*04:01:22e, DPB1*04:01:23e, DPB1*04:01:24e, DPB1*04:01:25e, DPB1*04:01:26e, DPB1*04:01:27e, DPB1*04:01:28e, DPB1*04:01:29e, DPB1*04:01:30e, DPB1*04:01:31e / DPB1*99:01e / DPB1*120:01Ne / DPB1*121:01e / DPB1*128:01e / DPB1*134:01e / DPB1*149:01e / DPB1*169:01e / DPB1*174:01e / DPB1*175:01e / DPB1*180:01e / DPB1*181:01e / DPB1*192:01e / DPB1*194:01e / DPB1*195:01e / DPB1*212:01e / DPB1*213:01e / DPB1*224:01e / DPB1*225:01e /						

EDP04	DPB1*228:01e / DPB1*231:01e / DPB1*232:01e / DPB1*240:01e / DPB1*253:01e / DPB1*255:01e / DPB1*262:01e / DPB1*272:01e / DPB1*275:01e / DPB1*276:01e / DPB1*281:01e / DPB1*282:01e / DPB1*283:01e / DPB1*298:01e / DPB1*320:01e / DPB1*323:01e / DPB1*334:01e / DPB1*335:01e / DPB1*336:01e / DPB1*341:01e / DPB1*350:01e / DPB1*356:01e / DPB1*360:01e / DPB1*372:01e / DPB1*376:01e / DPB1*378:01e / DPB1*396:01e / DPB1*397:01e / DPB1*415:01e / DPB1*418:01e / DPB1*425:01e / DPB1*426:01e / DPB1*428:01e / DPB1*434:01e / DPB1*453:01e / DPB1*455:01e / DPB1*459:01e / DPB1*464:01e / DPB1*465:01e / DPB1*468:01e / DPB1*475:01e / DPB1*476:01e / DPB1*479:01e / DPB1*485:01e / DPB1*486:01e / DPB1*487:01e / DPB1*497:01e / DPB1*500:01e / DPB1*520:01e / DPB1*521:01e / DPB1*522:01e / DPB1*523:01e / DPB1*524:01e / DPB1*529:01e / DPB1*534:01e	LFQG	EEFA	AAE	ILEEK	M	GGPM
EDP10	DPB1*10:01:01; DPB1*10:01:02e / DPB1*313:01e / DPB1*324:01e / DPB1*410:01e	VHQL	EEFV	DEE	ILEEE	V	DEAV

This epitope was AUTOMATICALLY chosen because it is the only one which does not require a rare allele.

This epitope was chosen as the most likely; cannot exclude one or more rare epitopes.

HAPLOTYPES

B-C

B*08	C*07	AFA	API	EUR	HIS
08:01	07:02	0.167% (78)	1.412% (20)	0.083% (61)	0.427% (61)
08:12	07:02	0.062% (123)	-	-	-

B*51	C*12	AFA	API	EUR	HIS
51:01	12:03	-	-	0.035% (91)	0.025% (247)

B*51	C*07	AFA	API	EUR	HIS
51:01	07:02	0.021% (241)	0.031% (163)	0.063% (72)	0.072% (147)

B*08	C*12	AFA	API	EUR	HIS
08:01	12:03	-	-	0.007% (178)	0.025% (305)

DQB1-DRB1

DQB1*05	DRB1*01	AFA	API	EUR	HIS
05:01	01:01	2.732% (14)	2.383% (13)	9.021% (4)	4.174% (7)

DQB1*02	DRB1*03	AFA	API	EUR	HIS
02:01	03:01	7.242% (3)	5.252% (5)	12.872% (2)	7.328% (2)

TEST INFO

Sample ID : **AC-107**
 Patient ID : **AC-107**

Test Date : **4/13/2017**

Kit Name : **LinkSeq HLA ABCDRDQDP SABR**
 Kit Lot # : **K3415-A**
 Plate 1 ID : **EX061623-ARF**

SUMMARY

This session includes tests for A, B, C, DR, DQA, DQB, DPA, and DPB.

test	genotype	phenotype	test	genotype	phenotype
HLA-A	A*02 A*25	A2 A25	HLA-C	C*05 C*12	Cw5 Cw12
HLA-B	B*18 B*44	B18 B44	Bw		Bw4 Bw6
HLA-DRB1	DRB1*04 DRB1*07	DR4 DR7	HLA-DRB345	DRB4*01 DRB4*01:03:01:02N	DR53/Null
HLA-DQA1	DQA1*02 DQA1*03	DQA1*02 DQA1*03	HLA-DQB1	DQB1*03 DQB1*03	DQ7 DQ9
HLA-DPA1	DPA1*01 DPA1*02	DPA1*01 DPA1*02			

test	epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
HLA-DPB1	EDP04	DPB1*04:01:01:01 (plus 103 rare alleles)	LFQG	EEFA	AAE	ILEEK	M	GGPM
	EDP13	DPB1*13:01:01 (plus 7 rare alleles)	VYQL	EEYA	AAE	ILEEE	I	DEAV

(Notice: Cannot exclude other combinations. Review all results.)

All test results are based on IMGT/HLA release: version 3.23.0 - January 2016

LABORATORY ASSIGNMENT

HLA-A : **A2 A25** HLA-B : **B18 B44** Bw : **Bw4 Bw6**

HLA-C : **Cw5 Cw12** HLA-DRB1 : **DR4 DR7** HLA-DRB345 : **DR53/Null**

HLA-DQA1 : **DQA1*02
DQA1*03** HLA-DQB1 : **DQ7 DQ9**

HLA-DPA1 : **DPA1*01
DPA1*02** HLA-DPB1 : **DPB1*04:01:01:01
DPB1*13:01:01**

NOTES**REVIEW**

Analyzed By:

Signature:

Date:

Reviewed By:

Signature:

Date:

HLA-A

group	allele	antigen
	A*02:01:01:01, A*02:01:04, A*02:04, A*02:09, A*02:11:01, A*02:17:01, A*02:20:01, A*02:22:01, A*02:24:01; A*02:01:01:02Le, A*02:01:01:03e, A*02:01:01:04e, A*02:01:01:05e, A*02:01:01:06e, A*02:01:02e, A*02:01:03e, A*02:01:05e, A*02:01:06e, A*02:01:07e, A*02:01:08e, A*02:01:10e, A*02:01:11e, A*02:01:12e, A*02:01:13e, A*02:01:15e, A*02:01:18e, A*02:01:19e, A*02:01:21e, A*02:01:22e, A*02:01:23e, A*02:01:24e, A*02:01:25e, A*02:01:26e, A*02:01:27e, A*02:01:28e, A*02:01:29e, A*02:01:30e, A*02:01:31e, A*02:01:32e, A*02:01:33e, A*02:01:34e, A*02:01:35e, A*02:01:37e, A*02:01:38e, A*02:01:39e, A*02:01:40e, A*02:01:41e, A*02:01:42e, A*02:01:43e, A*02:01:44e, A*02:01:45e, A*02:01:46e, A*02:01:47e, A*02:01:48e, A*02:01:49e, A*02:01:50e, A*02:01:51e, A*02:01:53e, A*02:01:54e, A*02:01:55e, A*02:01:57e, A*02:01:58e, A*02:01:59e, A*02:01:60e, A*02:01:61e, A*02:01:62e, A*02:01:63e, A*02:01:64e, A*02:01:65e, A*02:01:66e, A*02:01:67e, A*02:01:68e, A*02:01:69e, A*02:01:70e, A*02:01:71e, A*02:01:72e, A*02:01:73e, A*02:01:75e, A*02:01:76e, A*02:01:77e, A*02:01:78e, A*02:01:79e, A*02:01:80e, A*02:01:81e, A*02:01:83e, A*02:01:84e, A*02:01:85e, A*02:01:86e, A*02:01:87e, A*02:01:88e, A*02:01:89e, A*02:01:90e, A*02:01:91e, A*02:01:92e, A*02:01:93e, A*02:01:94e, A*02:01:95e, A*02:01:96e, A*02:01:97e, A*02:01:98e, A*02:01:99e, A*02:01:100e, A*02:01:101e, A*02:01:102e, A*02:01:103e, A*02:01:104e, A*02:01:105e, A*02:01:106e, A*02:01:107e, A*02:01:108e, A*02:01:109e, A*02:01:110e, A*02:01:111e, A*02:01:112e, A*02:01:113e, A*02:01:114e, A*02:01:115e, A*02:01:116e, A*02:01:117e, A*02:01:118e, A*02:01:119e, A*02:01:120e, A*02:01:121e, A*02:02:03e, A*02:06:05e, A*02:06:09e, A*02:06:22e, A*02:07:06e, A*02:11:03e, A*02:11:04e, A*02:11:05e, A*02:11:06e, A*02:11:07e, A*02:11:08e, A*02:11:08e, A*02:11:08e, A*02:12d, A*02:13d, A*02:16d, A*02:17:02e, A*02:17:03e, A*02:20:02e, A*02:22:02e, A*02:24:02e, A*02:25d, A*02:29d, A*02:31e, A*02:34d, A*02:42e, A*02:49d, A*02:59e, A*02:66e, A*02:67e, A*02:68e, A*02:70e, A*02:71e, A*02:74:01d, A*02:74:02e, A*02:77e, A*02:89e, A*02:90e, A*02:97:01e, A*02:97:02e, A*02:105e	A2
	A*02:03:05e	A203
	A*02:32Ne, A*02:43Ne, A*02:82Ne, A*02:83Ne, A*02:88Ne, A*02:94Ne, A*02:113:01Ne, A*02:113:02Ne, A*02:125Ne	Null
A*02	A*02:30, A*02:60:01; A*02:01:14Qe, A*02:26e, A*02:27d, A*02:33d, A*02:36d, A*02:37e, A*02:40:01e, A*02:40:02e, A*02:45d, A*02:56:01e, A*02:57e, A*02:58d, A*02:60:02e, A*02:62e, A*02:64:01d, A*02:69e, A*02:75e, A*02:76:01e, A*02:80e, A*02:84d, A*02:85d, A*02:86d, A*02:92e, A*02:96d, A*02:101:01e, A*02:101:02e, A*02:104e, A*02:107e, A*02:108e, A*02:109e, A*02:111e, A*02:116e, A*02:118e, A*02:119d, A*02:120e, A*02:121e, A*02:123d, A*02:128e, A*02:131d, A*02:132e, A*02:133e, A*02:134e, A*02:138e, A*02:139e, A*02:140e, A*02:141e, A*02:145e, A*02:146e, A*02:147e, A*02:149e, A*02:150e, A*02:151e, A*02:153:01e, A*02:153:02e, A*02:157:01e, A*02:157:02e, A*02:158e, A*02:159e, A*02:160e, A*02:161e, A*02:162e, A*02:163e, A*02:164e, A*02:165e, A*02:166e, A*02:167e, A*02:168e, A*02:173e, A*02:174e, A*02:175e, A*02:176e, A*02:177e, A*02:181e, A*02:182e, A*02:183e, A*02:184e, A*02:187e, A*02:188e, A*02:189e, A*02:190e, A*02:192e, A*02:193e, A*02:194e, A*02:196e, A*02:197e, A*02:198e, A*02:199e, A*02:200e, A*02:201e, A*02:202e, A*02:203e, A*02:204e, A*02:205e, A*02:206e, A*02:207e, A*02:208e, A*02:210e, A*02:211:01e, A*02:211:02e, A*02:212e, A*02:213e, A*02:214e, A*02:215e, A*02:216e, A*02:217:01e, A*02:217:02e, A*02:218e, A*02:220e, A*02:221e, A*02:222Ne, A*02:223Ne, A*02:224e, A*02:225Ne, A*02:226Ne, A*02:227Ne, A*02:228e, A*02:229e, A*02:231e, A*02:233e, A*02:234e, A*02:235e, A*02:236e, A*02:238e, A*02:239e, A*02:240e, A*02:241e, A*02:243:01e, A*02:246e, A*02:247e, A*02:249e, A*02:250Ne, A*02:251e, A*02:252e, A*02:254e, A*02:256e, A*02:257e, A*02:260e, A*02:261e, A*02:262e, A*02:263e, A*02:266e, A*02:267e, A*02:268e, A*02:269e, A*02:270e, A*02:272e, A*02:273e, A*02:274e, A*02:275e, A*02:276e, A*02:277e, A*02:283e, A*02:284Ne, A*02:285e, A*02:287e, A*02:288e, A*02:289:01e, A*02:289:02e, A*02:291e, A*02:292e, A*02:293Qe, A*02:294e, A*02:296e, A*02:298e, A*02:299e, A*02:301Ne, A*02:302e, A*02:303e, A*02:305Ne, A*02:306e, A*02:307e, A*02:308e, A*02:311e, A*02:312e, A*02:313e, A*02:314Ne, A*02:316e, A*02:317e, A*02:318e, A*02:321Ne, A*02:322e, A*02:323e, A*02:325e, A*02:326e, A*02:327e, A*02:329e, A*02:332e, A*02:336e, A*02:340e, A*02:341e, A*02:342e, A*02:343e, A*02:346e, A*02:347e, A*02:348e, A*02:349e, A*02:350Ne, A*02:351e, A*02:352e, A*02:353e, A*02:354e, A*02:356Ne, A*02:357e, A*02:360e, A*02:361e, A*02:362e, A*02:363e, A*02:364e, A*02:365e, A*02:366Ne, A*02:367e, A*02:368e, A*02:371e, A*02:372e, A*02:374e, A*02:375e, A*02:377e, A*02:378e, A*02:379e, A*02:380e, A*02:381e, A*02:383e, A*02:384e, A*02:385e, A*02:386e, A*02:388e, A*02:389e, A*02:390e, A*02:391e, A*02:392e, A*02:393e, A*02:394e, A*02:395Ne, A*02:396e, A*02:397e, A*02:399e, A*02:400e, A*02:401e, A*02:402e, A*02:406e, A*02:407e, A*02:410e, A*02:411e, A*02:414e, A*02:416e, A*02:417e, A*02:418e, A*02:422e, A*02:423e, A*02:424e, A*02:425e, A*02:430e, A*02:434e, A*02:435e, A*02:436e, A*02:439Ne, A*02:440Qe, A*02:441e, A*02:442e, A*02:443e, A*02:444e, A*02:445e, A*02:446e, A*02:448e, A*02:455e, A*02:456e, A*02:457e, A*02:458e, A*02:459e, A*02:460e, A*02:461e, A*02:462e, A*02:464e, A*02:467e, A*02:468:01Ne, A*02:468:02Ne, A*02:469e, A*02:473e, A*02:479e, A*02:481e, A*02:482e, A*02:483e, A*02:485e, A*02:486e, A*02:487e, A*02:488e, A*02:490Ne, A*02:491e, A*02:494e, A*02:497e, A*02:498e, A*02:499e, A*02:500Qe, A*02:501Ne, A*02:502e, A*02:503e, A*02:508e, A*02:509e, A*02:510e, A*02:511e, A*02:512e, A*02:514Ne, A*02:515e, A*02:516Ne, A*02:518e, A*02:519e, A*02:520e, A*02:521e, A*02:522e, A*02:523e, A*02:524e, A*02:525Ne, A*02:526e, A*02:528e, A*02:530e, A*02:533e, A*02:534e, A*02:535e, A*02:536e, A*02:537e, A*02:538e, A*02:539e, A*02:540Ne, A*02:542e, A*02:543e, A*02:545e, A*02:547e, A*02:548e, A*02:551e, A*02:552e, A*02:553e, A*02:554e, A*02:555e, A*02:556e, A*02:558e, A*02:559e, A*02:560e, A*02:561e, A*02:562e, A*02:563e, A*02:564e, A*02:565e, A*02:569e, A*02:573e, A*02:574e, A*02:576e, A*02:578e, A*02:579e, A*02:581e, A*02:584e, A*02:585e, A*02:587e, A*02:588e, A*02:589e, A*02:590e, A*02:595e, A*02:596e, A*02:597e, A*02:598e, A*02:599e, A*02:600e, A*02:603e, A*02:605Qe, A*02:606e, A*02:607e, A*02:608Ne, A*02:609e, A*02:610e	
A*25	A*25:01:01; A*25:01:02e, A*25:01:03e, A*25:01:04e, A*25:01:05e, A*25:01:06e, A*25:01:07e, A*25:01:08e, A*25:02d A*25:04e, A*25:05e, A*25:07e, A*25:08e, A*25:09e, A*25:10e, A*25:12Ne, A*25:13e, A*25:14e, A*25:15e, A*25:16e, A*25:17e, A*25:18e, A*25:19:01e, A*25:19:02e, A*25:20e, A*25:21e, A*25:22e, A*25:23e, A*25:24e, A*25:25e, A*25:26e, A*25:27:01e, A*25:27:02e, A*25:28e, A*25:29e, A*25:31e, A*25:32e, A*25:33e	A25

HLA-B

group	allele	antigen
	B*18:01:01:01, B*18:03; B*18:01:01:02e, B*18:01:02d, B*18:01:03e, B*18:01:04e, B*18:01:05e, B*18:01:07e, B*18:01:08e, B*18:01:10e, B*18:01:11e,	

B*18	B*18:01:13e, B*18:01:14e, B*18:01:15e, B*18:01:16e, B*18:01:17e, B*18:01:18e, B*18:01:19e, B*18:01:20e, B*18:01:21e, B*18:01:22e, B*18:01:23e, B*18:01:24e, B*18:05d, B*18:06d	B18
	B*18:17Ne, B*18:23Ne	Null
	B*18:07:01e, B*18:08d, B*18:13d, B*18:14d, B*18:20d, B*18:24e, B*18:25d, B*18:26e, B*18:28e, B*18:31e, B*18:32e, B*18:34e, B*18:36e, B*18:38e, B*18:39e, B*18:40e, B*18:41e, B*18:42e, B*18:43e, B*18:44:01e, B*18:45e, B*18:46e, B*18:47e, B*18:49e, B*18:50e, B*18:51e, B*18:53e, B*18:55e, B*18:59e, B*18:60e, B*18:61e, B*18:62e, B*18:63e, B*18:64e, B*18:65e, B*18:68e, B*18:70e, B*18:71e, B*18:73e, B*18:74Ne, B*18:75e, B*18:76e, B*18:77e, B*18:78e, B*18:79e, B*18:81e, B*18:82e, B*18:83e, B*18:84e, B*18:85e, B*18:86e, B*18:87e, B*18:88e, B*18:89e, B*18:90e, B*18:91e, B*18:92e, B*18:93e, B*18:94Ne, B*18:95e, B*18:96e, B*18:97e, B*18:99e, B*18:100e, B*18:103e, B*18:104e, B*18:106e, B*18:109e, B*18:111e, B*18:112e, B*18:114e, B*18:115e, B*18:116e, B*18:117e, B*18:118e, B*18:119e, B*18:120e	-
B*44	B*44:02:01:01, B*44:27:01; B*44:02:01:03e, B*44:02:02e, B*44:02:03e, B*44:02:05e, B*44:02:06e, B*44:02:07e, B*44:02:08e, B*44:02:10e, B*44:02:11e, B*44:02:12e, B*44:02:13e, B*44:02:14e, B*44:02:15e, B*44:02:16e, B*44:02:17e, B*44:02:18e, B*44:02:19e, B*44:02:20e, B*44:02:21e, B*44:02:22e, B*44:02:23e, B*44:02:24e, B*44:02:25e, B*44:02:26e, B*44:02:27e, B*44:02:28e, B*44:02:29e, B*44:02:30e, B*44:02:31e, B*44:02:32e, B*44:02:33e, B*44:02:34e, B*44:02:35e, B*44:02:36e, B*44:02:37e, B*44:02:38e, B*44:02:39e, B*44:12d, B*44:14e, B*44:27:02e, B*44:53e	B44
	B*44:19Ne, B*44:23Nd	Null
	B*44:02:01:02Se	Soluble
	B*44:11e, B*44:21d, B*44:22d, B*44:24d, B*44:33e, B*44:34:01e, B*44:34:02e, B*44:35e, B*44:41:01e, B*44:41:02e, B*44:48e, B*44:49e, B*44:51e, B*44:59:01e, B*44:59:02e, B*44:63e, B*44:66e, B*44:67e, B*44:68e, B*44:71e, B*44:72e, B*44:73e, B*44:74e, B*44:80e, B*44:86e, B*44:87e, B*44:88e, B*44:89e, B*44:93e, B*44:99e, B*44:100e, B*44:101e, B*44:102e, B*44:104e, B*44:106e, B*44:112e, B*44:113e, B*44:116e, B*44:118e, B*44:119e, B*44:121e, B*44:121e, B*44:126:01e, B*44:126:02e, B*44:127e, B*44:133e, B*44:137e, B*44:138Qe, B*44:142e, B*44:145e, B*44:148e, B*44:149Ne, B*44:151e, B*44:152e, B*44:162e, B*44:168e, B*44:170e, B*44:171Ne, B*44:172e, B*44:173e, B*44:177e, B*44:179e, B*44:185e, B*44:187e, B*44:191e, B*44:196e, B*44:200e, B*44:201e, B*44:206e, B*44:208e, B*44:211e, B*44:214e, B*44:216e, B*44:217Ne, B*44:218e, B*44:219e, B*44:220e, B*44:229e, B*44:235e, B*44:238e	-

Bw

allele	antigen
B*44:02:01:01, B*44:27:01; B*44:02:01:02Se, B*44:02:01:03e, B*44:02:02e, B*44:02:03e, B*44:02:05e, B*44:02:06e, B*44:02:07e, B*44:02:08e, B*44:02:10e, B*44:02:11e, B*44:02:12e, B*44:02:13e, B*44:02:14e, B*44:02:15e, B*44:02:16e, B*44:02:17e, B*44:02:18e, B*44:02:19e, B*44:02:20e, B*44:02:21e, B*44:02:22e, B*44:02:23e, B*44:02:24e, B*44:02:25e, B*44:02:26e, B*44:02:27e, B*44:02:28e, B*44:02:29e, B*44:02:30e, B*44:02:31e, B*44:02:32e, B*44:02:33e, B*44:02:34e, B*44:02:35e, B*44:02:36e, B*44:02:37e, B*44:02:38e, B*44:02:39e, B*44:11e, B*44:12d, B*44:14e, B*44:19Ne, B*44:21d, B*44:22d, B*44:23Nd, B*44:24d, B*44:27:02e, B*44:33e, B*44:34:01e, B*44:34:02e, B*44:35e, B*44:41:01e, B*44:41:02e, B*44:48e, B*44:49e, B*44:51e, B*44:53e, B*44:59:01e, B*44:59:02e, B*44:63e, B*44:66e, B*44:67e, B*44:68e, B*44:71e, B*44:72e, B*44:73e, B*44:74e, B*44:80e, B*44:86e, B*44:87e, B*44:88e, B*44:89e, B*44:93e, B*44:99e, B*44:100e, B*44:101e, B*44:102e, B*44:104e, B*44:106e, B*44:112e, B*44:113e, B*44:116e, B*44:118e, B*44:119e, B*44:121e, B*44:121e, B*44:126:01e, B*44:126:02e, B*44:127e, B*44:133e, B*44:137e, B*44:138Qe, B*44:142e, B*44:145e, B*44:148e, B*44:149Ne, B*44:151e, B*44:152e, B*44:162e, B*44:168e, B*44:170e, B*44:171Ne, B*44:172e, B*44:173e, B*44:177e, B*44:179e, B*44:185e, B*44:187e, B*44:191e, B*44:196e, B*44:200e, B*44:201e, B*44:206e, B*44:208e, B*44:211e, B*44:214e, B*44:216e, B*44:217Ne, B*44:218e, B*44:219e, B*44:220e, B*44:229e, B*44:235e, B*44:238e	Bw4
B*18:01:01:01, B*18:03; B*18:01:01:02e, B*18:01:02d, B*18:01:03e, B*18:01:04e, B*18:01:05e, B*18:01:07e, B*18:01:08e, B*18:01:10e, B*18:01:11e, B*18:01:13e, B*18:01:14e, B*18:01:15e, B*18:01:16e, B*18:01:17e, B*18:01:18e, B*18:01:19e, B*18:01:20e, B*18:01:21e, B*18:01:22e, B*18:01:23e, B*18:01:24e, B*18:05d, B*18:06d, B*18:07:01e, B*18:08d, B*18:13d, B*18:14d, B*18:17Ne, B*18:20d, B*18:23Ne, B*18:24e, B*18:25d, B*18:26e, B*18:28e, B*18:31e, B*18:32e, B*18:34e, B*18:36e, B*18:39e, B*18:40e, B*18:41e, B*18:42e, B*18:43e, B*18:44:01e, B*18:45e, B*18:46e, B*18:47e, B*18:49e, B*18:50e, B*18:51e, B*18:53e, B*18:55e, B*18:59e, B*18:60e, B*18:61e, B*18:62e, B*18:63e, B*18:64e, B*18:65e, B*18:68e, B*18:70e, B*18:71e, B*18:73e, B*18:74Ne, B*18:75e, B*18:76e, B*18:77e, B*18:78e, B*18:79e, B*18:81e, B*18:82e, B*18:83e, B*18:84e, B*18:85e, B*18:86e, B*18:87e, B*18:88e, B*18:89e, B*18:90e, B*18:91e, B*18:92e, B*18:93e, B*18:94Ne, B*18:95e, B*18:96e, B*18:97e, B*18:99e, B*18:100e, B*18:103e, B*18:104e, B*18:106e, B*18:109e, B*18:111e, B*18:112e, B*18:114e, B*18:115e, B*18:116e, B*18:117e, B*18:118e, B*18:119e, B*18:120e	Bw6

HLA-C

group	allele	antigen
C*05	C*05:01:01:01; C*05:01:01:02d, C*05:01:03e, C*05:01:04e, C*05:01:05e, C*05:01:06e, C*05:01:07e, C*05:01:08e, C*05:01:09e, C*05:01:10e, C*05:01:11e, C*05:01:12e, C*05:01:13e, C*05:01:14e, C*05:01:15e, C*05:01:16e, C*05:01:17e, C*05:01:19e, C*05:01:21e, C*05:01:22e, C*05:01:23e, C*05:01:24e, C*05:01:25e, C*05:01:26e, C*05:01:27e, C*05:01:28e, C*05:01:29e, C*05:01:30e, C*05:01:31e	Cw5
	C*05:07Nd	Null
	C*05:03e, C*05:04:01d, C*05:05d, C*05:06e, C*05:08d, C*05:10d, C*05:11e, C*05:13e, C*05:14d, C*05:15e, C*05:16e, C*05:19e, C*05:21e, C*05:22:01e, C*05:22:02e, C*05:23e, C*05:24e, C*05:25e, C*05:26e, C*05:27e, C*05:28e, C*05:29:01e, C*05:29:02e, C*05:30e, C*05:31e, C*05:32e, C*05:33e, C*05:34e, C*05:35e, C*05:37e, C*05:38e, C*05:39e, C*05:40e, C*05:41e, C*05:42e, C*05:43e, C*05:44:01e, C*05:44:02e, C*05:45e, C*05:46e, C*05:47e, C*05:48Ne, C*05:49e, C*05:50e, C*05:51Qe, C*05:53e, C*05:54e, C*05:55e, C*05:56e, C*05:57e, C*05:58:02e, C*05:59e, C*05:60e, C*05:61e, C*05:62e, C*05:63e, C*05:64:01e, C*05:64:02e, C*05:65e, C*05:66e, C*05:67e, C*05:69e, C*05:70e, C*05:71e, C*05:72e, C*05:73e, C*05:74e, C*05:75e, C*05:77e, C*05:80e, C*05:81e, C*05:82e, C*05:83e, C*05:84e, C*05:85e, C*05:86e, C*05:87e, C*05:88e, C*05:89e, C*05:90e, C*05:91Ne, C*05:92Ne, C*05:93e, C*05:94e, C*05:95e, C*05:96e, C*05:98e, C*05:99Ne, C*05:100e, C*05:101e, C*05:102e, C*05:104e, C*05:108e, C*05:109e, C*05:110e, C*05:111e, C*05:112e, C*05:112e, C*05:113Ne, C*05:114e, C*05:116e, C*05:117e, C*05:118e, C*05:119e, C*05:120e, C*05:121e, C*05:122e, C*05:123e, C*05:124e, C*05:125e, C*05:126e, C*05:127e	-

C*12	C*12:03:01:01, C*12:04:02; C*12:02:06e, C*12:02:08e, C*12:02:12e, C*12:03:01:02e, C*12:03:01:03e, C*12:03:02e, C*12:03:03e, C*12:03:04e, C*12:03:05e, C*12:03:06e, C*12:03:07e, C*12:03:08e, C*12:03:09e, C*12:03:10e, C*12:03:11e, C*12:03:12e, C*12:03:13e, C*12:03:14e, C*12:03:15e, C*12:03:17e, C*12:03:18e, C*12:03:20e, C*12:03:21e, C*12:03:22e, C*12:03:24e, C*12:03:25e, C*12:03:26e, C*12:03:28e, C*12:03:29e, C*12:03:31e, C*12:03:33e, C*12:03:34:01e, C*12:03:34:02e, C*12:03:35e, C*12:03:36e, C*12:03:37e, C*12:04:01d, C*12:06e, C*12:07e, C*12:11e, C*12:12d, C*12:13d, C*12:15e, C*12:16d, C*12:19e, C*12:23e, C*12:25e, C*12:26e, C*12:29e, C*12:31e, C*12:32e, C*12:34e, C*12:35e, C*12:36e, C*12:37e, C*12:38e, C*12:39Ne, C*12:42Qe, C*12:43e, C*12:45e, C*12:46Ne, C*12:47e, C*12:48e, C*12:50e, C*12:51e, C*12:52e, C*12:53e, C*12:54e, C*12:57e, C*12:58e, C*12:59e, C*12:60e, C*12:61e, C*12:62e, C*12:63e, C*12:65e, C*12:66e, C*12:70e, C*12:71e, C*12:75e, C*12:76e, C*12:77e, C*12:78e, C*12:79e, C*12:82e, C*12:87e, C*12:88e, C*12:89e, C*12:90e, C*12:91e, C*12:92e, C*12:93e, C*12:94e, C*12:95e, C*12:97e, C*12:99e, C*12:100e, C*12:101e, C*12:102e, C*12:107e, C*12:108e, C*12:109e, C*12:110e, C*12:111e, C*12:113e, C*12:115e, C*12:116e, C*12:118e, C*12:120e, C*12:121e, C*12:122e, C*12:125e, C*12:129e, C*12:131e, C*12:133e, C*12:136e, C*12:138e, C*12:139e, C*12:140e, C*12:141e, C*12:143e, C*12:144e, C*12:147e, C*12:149e, C*12:150e, C*12:152e, C*12:153e, C*12:154e, C*12:156e, C*12:157e, C*12:158e, C*12:159e, C*12:160e, C*12:163e, C*12:165e, C*12:167e, C*12:170e, C*12:172e	-
This genotype was chosen as the most likely; cannot exclude one or more rare genotypes.		

HLA-DR

HLA-DRB1

group	allele	antigen
DRB1*04	DRB1*04:01:01; DRB1*04:01:02e, DRB1*04:01:03e, DRB1*04:01:04e, DRB1*04:01:05e, DRB1*04:01:06e, DRB1*04:01:07e, DRB1*04:01:08e, DRB1*04:01:09e, DRB1*04:01:10e, DRB1*04:01:11e, DRB1*04:01:12e, DRB1*04:01:13e, DRB1*04:01:15e, DRB1*04:01:16e, DRB1*04:13d, DRB1*04:16d, DRB1*04:26d, DRB1*04:64e	DR4
	DRB1*04:38; DRB1*04:33d, DRB1*04:35d, DRB1*04:62e, DRB1*04:72:01e, DRB1*04:72:02e, DRB1*04:76e, DRB1*04:111e, DRB1*04:112e, DRB1*04:113e, DRB1*04:115e, DRB1*04:117e, DRB1*04:119Ne, DRB1*04:123e, DRB1*04:127e, DRB1*04:128e, DRB1*04:130e, DRB1*04:135e, DRB1*04:139e, DRB1*04:141e, DRB1*04:151e, DRB1*04:153e, DRB1*04:155e, DRB1*04:158Ne, DRB1*04:159e, DRB1*04:171e, DRB1*04:174e, DRB1*04:175e, DRB1*04:179e, DRB1*04:184e, DRB1*04:187e, DRB1*04:190e, DRB1*04:192e, DRB1*04:194e, DRB1*04:196e, DRB1*04:200e	-
DRB1*07	DRB1*07:01:01:01; DRB1*07:01:01:02e, DRB1*07:01:02e, DRB1*07:01:03e, DRB1*07:01:04e, DRB1*07:01:05e, DRB1*07:01:06e, DRB1*07:01:07e, DRB1*07:01:08e, DRB1*07:01:09e, DRB1*07:01:10e, DRB1*07:01:11e, DRB1*07:01:12e, DRB1*07:01:13e, DRB1*07:01:14e, DRB1*07:01:15e, DRB1*07:01:16e, DRB1*07:01:17e, DRB1*07:01:18e, DRB1*07:03d, DRB1*07:04e, DRB1*07:09e	DR7
	DRB1*07:10Ne DRB1*07:05d, DRB1*07:06e, DRB1*07:07d, DRB1*07:08e, DRB1*07:11d, DRB1*07:12e, DRB1*07:13d, DRB1*07:14e, DRB1*07:15e, DRB1*07:16e, DRB1*07:17e, DRB1*07:18e, DRB1*07:19e, DRB1*07:20e, DRB1*07:21e, DRB1*07:22e, DRB1*07:23e, DRB1*07:24e, DRB1*07:25e, DRB1*07:26Ne, DRB1*07:27e, DRB1*07:28e, DRB1*07:29e, DRB1*07:30e, DRB1*07:31e, DRB1*07:32e, DRB1*07:33e, DRB1*07:34e, DRB1*07:35e, DRB1*07:36e, DRB1*07:37e, DRB1*07:38e, DRB1*07:39e, DRB1*07:40e, DRB1*07:41e, DRB1*07:42e, DRB1*07:43e, DRB1*07:44e, DRB1*07:45e, DRB1*07:46e, DRB1*07:47e, DRB1*07:48e, DRB1*07:49e, DRB1*07:51e, DRB1*07:52e, DRB1*07:53e, DRB1*07:54e, DRB1*07:55e, DRB1*07:56e, DRB1*07:57e, DRB1*07:58Ne, DRB1*07:59e, DRB1*07:60e, DRB1*07:61e, DRB1*07:62e, DRB1*07:63e, DRB1*07:64e, DRB1*07:65e, DRB1*07:66e, DRB1*07:67e, DRB1*07:68Ne	Null

HLA-DRB345

group	allele	antigen
DRB4*01	DRB4*01:03:01:01, DRB4*01:03:03; DRB4*01:03:01:03e, DRB4*01:03:02d, DRB4*01:03:04e, DRB4*01:05e	DR53
	DRB4*01:04e, DRB4*01:07e, DRB4*01:08e, DRB4*01:09e, DRB4*01:10e	-
DRB4*01:03:01:02N	DRB4*01:03:01:02N	Null

HLA-DQA1

group	allele	antigen
DQA1*02	DQA1*02:01	-
DQA1*03	DQA1*03:03:01; DQA1*03:03:02e	-

HLA-DQB1

group	allele	antigen
	DQB1*03:01:01:01; DQB1*03:01:01:02e, DQB1*03:01:01:03e, DQB1*03:01:02e, DQB1*03:01:03d, DQB1*03:01:04d, DQB1*03:01:05e, DQB1*03:01:06e, DQB1*03:01:07e, DQB1*03:01:08e, DQB1*03:01:09e, DQB1*03:01:10e, DQB1*03:01:11e, DQB1*03:01:12e, DQB1*03:01:13e, DQB1*03:01:14e, DQB1*03:01:15e, DQB1*03:01:16e, DQB1*03:01:17e, DQB1*03:01:18e, DQB1*03:01:19e, DQB1*03:01:20e, DQB1*03:01:21e, DQB1*03:01:22e, DQB1*03:01:23e, DQB1*03:01:24e, DQB1*03:01:25e, DQB1*03:01:26e, DQB1*03:01:27e, DQB1*03:01:28e, DQB1*03:01:29e,	DQ7

DQB1*03	DQB1*03:01:30e, DQB1*03:01:31e DQB1*03:09, DQB1*03:19; DQB1*03:13d, DQB1*03:21e, DQB1*03:22e, DQB1*03:24e, DQB1*03:27e, DQB1*03:28e, DQB1*03:29e, DQB1*03:35e, DQB1*03:36e, DQB1*03:42e, DQB1*03:44e, DQB1*03:46e, DQB1*03:47e, DQB1*03:48e, DQB1*03:49e, DQB1*03:50e, DQB1*03:51e, DQB1*03:52e, DQB1*03:53e, DQB1*03:54e, DQB1*03:55e, DQB1*03:56e, DQB1*03:57e, DQB1*03:58e, DQB1*03:59e, DQB1*03:60e, DQB1*03:69e, DQB1*03:71e, DQB1*03:73e, DQB1*03:74e, DQB1*03:75e, DQB1*03:76e, DQB1*03:77e, DQB1*03:78e, DQB1*03:82e, DQB1*03:83e, DQB1*03:84Ne, DQB1*03:92e, DQB1*03:93e, DQB1*03:94e, DQB1*03:101e, DQB1*03:102e, DQB1*03:103e, DQB1*03:108e, DQB1*03:109e, DQB1*03:113e, DQB1*03:114e, DQB1*03:115e, DQB1*03:116e, DQB1*03:118Ne, DQB1*03:119e, DQB1*03:120e, DQB1*03:121e, DQB1*03:122e, DQB1*03:127e, DQB1*03:128e, DQB1*03:129e, DQB1*03:130e, DQB1*03:131e, DQB1*03:133e, DQB1*03:134e, DQB1*03:135e, DQB1*03:139e, DQB1*03:140e, DQB1*03:142e, DQB1*03:143e, DQB1*03:144e, DQB1*03:147e, DQB1*03:148e, DQB1*03:150e, DQB1*03:151e, DQB1*03:152e, DQB1*03:154e, DQB1*03:157e, DQB1*03:158e, DQB1*03:159e, DQB1*03:160e, DQB1*03:162e, DQB1*03:163e, DQB1*03:164e, DQB1*03:165e, DQB1*03:166e, DQB1*03:167e, DQB1*03:169e, DQB1*03:170e, DQB1*03:171e, DQB1*03:173e, DQB1*03:182e, DQB1*03:186e, DQB1*03:187e, DQB1*03:188e, DQB1*03:191e, DQB1*03:192e, DQB1*03:193e, DQB1*03:194e, DQB1*03:196e, DQB1*03:197Qe, DQB1*03:198e, DQB1*03:201e, DQB1*03:202e, DQB1*03:206e, DQB1*03:207e, DQB1*03:208e, DQB1*03:216e, DQB1*03:218e, DQB1*03:219e	-
DQB1*03	DQB1*03:02:18e, DQB1*03:10:01e	DQ8
	DQB1*03:03:02:01; DQB1*03:03:02:02e, DQB1*03:03:02:03e, DQB1*03:03:02:04e, DQB1*03:03:03e, DQB1*03:03:04e, DQB1*03:03:05e, DQB1*03:03:06e, DQB1*03:03:07e, DQB1*03:03:08e, DQB1*03:03:09e, DQB1*03:03:10e, DQB1*03:03:11e, DQB1*03:03:12e, DQB1*03:03:13e	DQ9
	DQB1*03:08e, DQB1*03:12e, DQB1*03:15e, DQB1*03:20e, DQB1*03:26e, DQB1*03:30e, DQB1*03:31e, DQB1*03:33e, DQB1*03:34e, DQB1*03:38e, DQB1*03:39e, DQB1*03:40e, DQB1*03:41e, DQB1*03:43e, DQB1*03:65e, DQB1*03:79e, DQB1*03:86e, DQB1*03:87e, DQB1*03:88e, DQB1*03:89e, DQB1*03:90Ne, DQB1*03:91Qe, DQB1*03:95Ne, DQB1*03:96e, DQB1*03:97e, DQB1*03:98e, DQB1*03:99Qe, DQB1*03:104e, DQB1*03:105e, DQB1*03:107e, DQB1*03:110e, DQB1*03:111e, DQB1*03:112e, DQB1*03:117e, DQB1*03:123e, DQB1*03:124e, DQB1*03:125e, DQB1*03:126e, DQB1*03:136e, DQB1*03:137e, DQB1*03:141e, DQB1*03:145e, DQB1*03:149e, DQB1*03:153e, DQB1*03:155e, DQB1*03:156e, DQB1*03:161e, DQB1*03:168e, DQB1*03:176e, DQB1*03:177e, DQB1*03:180e, DQB1*03:195e, DQB1*03:200e, DQB1*03:205e, DQB1*03:209e, DQB1*03:212e, DQB1*03:214e, DQB1*03:217e, DQB1*03:221e	-

HLA-DPA1

group	allele	antigen
DPA1*01	DPA1*01:03:01:01, DPA1*01:04; DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-
DPA1*02	DPA1*02:01:01:01, DPA1*02:02:01; DPA1*02:01:01:02e, DPA1*02:01:02e, DPA1*02:01:03e, DPA1*02:01:04e, DPA1*02:01:05e, DPA1*02:01:06e, DPA1*02:01:07e, DPA1*02:01:08e, DPA1*02:02:02e, DPA1*02:02:03e, DPA1*02:02:04e, DPA1*02:02:05e, DPA1*02:02:06e, DPA1*02:03e, DPA1*02:04e, DPA1*02:05e, DPA1*02:06e	-

HLA-DPB1

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP04	DPB1*04:01:01:01; DPB1*04:01:01:02e, DPB1*04:01:02e, DPB1*04:01:03e, DPB1*04:01:04e, DPB1*04:01:05e, DPB1*04:01:06e, DPB1*04:01:07e, DPB1*04:01:08e, DPB1*04:01:09e, DPB1*04:01:10e, DPB1*04:01:11e, DPB1*04:01:12e, DPB1*04:01:14e, DPB1*04:01:15e, DPB1*04:01:16e, DPB1*04:01:17e, DPB1*04:01:18e, DPB1*04:01:19e, DPB1*04:01:20e, DPB1*04:01:21e, DPB1*04:01:22e, DPB1*04:01:23e, DPB1*04:01:24e, DPB1*04:01:25e, DPB1*04:01:26e, DPB1*04:01:27e, DPB1*04:01:28e, DPB1*04:01:29e, DPB1*04:01:30e, DPB1*04:01:31e / DPB1*99:01e / DPB1*120:01Ne / DPB1*121:01e / DPB1*128:01e / DPB1*134:01e / DPB1*149:01e / DPB1*169:01e / DPB1*174:01e / DPB1*175:01e / DPB1*180:01e / DPB1*181:01e / DPB1*192:01e / DPB1*194:01e / DPB1*195:01e / DPB1*212:01e / DPB1*213:01e / DPB1*224:01e / DPB1*225:01e / DPB1*228:01e / DPB1*231:01e / DPB1*232:01e / DPB1*240:01e / DPB1*253:01e / DPB1*255:01e / DPB1*262:01e / DPB1*272:01e / DPB1*275:01e / DPB1*276:01e / DPB1*281:01e / DPB1*282:01e / DPB1*283:01e / DPB1*298:01e / DPB1*320:01e / DPB1*323:01e / DPB1*334:01e / DPB1*335:01e / DPB1*336:01e / DPB1*341:01e / DPB1*350:01e / DPB1*356:01e / DPB1*360:01e / DPB1*372:01e / DPB1*376:01e / DPB1*378:01e / DPB1*396:01e / DPB1*397:01e / DPB1*415:01e / DPB1*418:01e / DPB1*425:01e / DPB1*426:01e / DPB1*428:01e / DPB1*434:01e / DPB1*453:01e / DPB1*455:01Ne / DPB1*459:01e / DPB1*464:01e / DPB1*465:01e / DPB1*468:01e / DPB1*475:01e / DPB1*476:01e / DPB1*479:01e / DPB1*485:01e / DPB1*486:01e / DPB1*487:01e / DPB1*497:01e / DPB1*500:01e / DPB1*520:01e / DPB1*521:01e / DPB1*522:01e / DPB1*523:01e / DPB1*524:01e / DPB1*529:01e / DPB1*534:01e	LFQG	EEFA	AAE	ILEEK	M	GGPM
EDP13	DPB1*13:01:01; DPB1*13:01:02e / DPB1*107:01e / DPB1*133:01e / DPB1*362:01e / DPB1*393:01e / DPB1*438:01e / DPB1*518:01e	VYQL	EEYA	AAE	ILEEE	I	DEAV

This epitype was AUTOMATICALLY chosen because it is the only one which does not require a rare allele.

HAPLOTYPES

B-C

B*44	C*05	AFA	API	EUR	HIS
44:02	05:01	1.786% (15)	0.711% (35)	7.715% (3)	2.684% (6)
44:02	05:05	-	-	0.019% (116)	-
44:02	05:07	-	-	0.006% (227)	-

B*18	C*12	AFA	API	EUR	HIS
18:01	12:03	0.353% (51)	0.398% (53)	1.525% (16)	1.201% (24)
18:08	12:03	-	-	0.006% (249)	-

B*18	C*05	AFA	API	EUR	HIS
18:01	05:01	1.101% (22)	0.028% (192)	1.192% (23)	1.705% (16)

B*44	C*12	AFA	API	EUR	HIS
44:02	12:03	-	-	0.048% (79)	-

DQB1-DRB1

DQB1*03	DRB1*04	AFA	API	EUR	HIS
03:01	04:01	0.956% (25)	0.446% (36)	4.912% (7)	1.153% (27)
03:03	04:01	-	-	0.013% (70)	-

DQB1*03	DRB1*07	AFA	API	EUR	HIS
03:03	07:01	0.540% (32)	1.721% (23)	3.642% (9)	1.484% (22)
03:01	07:01	-	0.045% (73)	0.029% (49)	-

TEST INFO

Sample ID : **AC-108**
 Patient ID : **AC-108**

Test Date : **4/13/2017**

Kit Name : **LinkSeq HLA ABCDRDQDP SABR**
 Kit Lot # : **K3415-A**
 Plate 1 ID : **EX061623-ARG**

SUMMARY

This session includes tests for A, B, C, DR, DQA, DQB, DPA, and DPB.

test	genotype	phenotype	test	genotype	phenotype
HLA-A	A*11 A*24	A11 A24	HLA-C	C*01 C*03	Cw1 Cw10
HLA-B	B*13 B*46	B13 B46	Bw		Bw4 Bw6
HLA-DRB1	DRB1*07 DRB1*14	DR7 DR14	HLA-DRB345	DRB3*02 DRB4*01	DR52 DR53
HLA-DQA1	DQA1*01 DQA1*02	DQA1*01 DQA1*02	HLA-DQB1	DQB1*02 DQB1*05	DQ2 DQ5
HLA-DPA1	DPA1*02 DPA1*02	DPA1*02 DPA1*02			

test	epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
HLA-DPB1	EDP05	DPB1*05:01:01 (plus 18 rare alleles)	LFQG	EELV	EAE	ILEEK	M	DEAV
	EDP17	DPB1*17:01 (plus 6 rare alleles)	VHQL	EEFV	DED	ILEEE	M	DEAV

The HLA-DRB1 test genotype was **automatically** chosen.
 The HLA-DPB1 test genotype was **automatically** chosen.
 There are some undocumented DQB1-DRB1 haplotypes for this session!

(Notice: Cannot exclude other combinations. Review all results.)
 All test results are based on IMGT/HLA release: version 3.23.0 - January 2016

LABORATORY ASSIGNMENT

HLA-A : **A11 A24** HLA-B : **B13 B46** Bw : **Bw4 Bw6**

HLA-C : **Cw1 Cw10** HLA-DRB1 : **DR7 DR14** HLA-DRB345 : **DR52 DR53**

HLA-DQA1 : **DQA1*01**
DQA1*02 HLA-DQB1 : **DQ2 DQ5**

HLA-DPA1 : **DPA1*02**
DPA1*02 HLA-DPB1 : **DPB1*05:01:01**
DPB1*17:01

NOTES**REVIEW**

HLA-A

group	allele	antigen
A*11	A*11:01:01:01; A*11:01:01:02e, A*11:01:02e, A*11:01:03e, A*11:01:04e, A*11:01:05e, A*11:01:06e, A*11:01:08e, A*11:01:09e, A*11:01:10e, A*11:01:11e, A*11:01:12e, A*11:01:13e, A*11:01:14e, A*11:01:15e, A*11:01:16e, A*11:01:17e, A*11:01:18e, A*11:01:19e, A*11:01:20e, A*11:01:21e, A*11:01:22e, A*11:01:23e, A*11:01:24e, A*11:01:25e, A*11:01:26e, A*11:01:27e, A*11:01:29e, A*11:01:30e, A*11:01:31e, A*11:01:32e, A*11:01:33e, A*11:01:34e, A*11:01:35e, A*11:01:36e, A*11:01:37e, A*11:01:38e, A*11:01:39e, A*11:01:40e, A*11:01:41e, A*11:01:42e, A*11:01:43e, A*11:01:45e, A*11:01:46e, A*11:01:47e, A*11:01:48e, A*11:01:49e, A*11:01:50e, A*11:01:51e, A*11:01:52e, A*11:01:53e, A*11:01:54e, A*11:01:55e, A*11:01:56e, A*11:01:57e, A*11:01:58e, A*11:01:59e, A*11:01:60e, A*11:01:61e, A*11:01:62e, A*11:01:63e, A*11:01:64e, A*11:01:65e, A*11:01:66e, A*11:01:67e, A*11:01:68e, A*11:01:69e, A*11:03d, A*11:05d, A*11:07e, A*11:09d, A*11:12d, A*11:13e, A*11:15:01e, A*11:15:02e, A*11:19d	A11
	A*11:21Ne	Null
	A*11:06e, A*11:11e, A*11:18e, A*11:20e, A*11:22e, A*11:23e, A*11:29d, A*11:30d, A*11:32:01e, A*11:32:02e, A*11:33:02e, A*11:34e, A*11:36e, A*11:37e, A*11:41e, A*11:42e, A*11:43e, A*11:45e, A*11:46e, A*11:47e, A*11:48e, A*11:49e, A*11:51e, A*11:52Qe, A*11:54e, A*11:55e, A*11:56e, A*11:58e, A*11:59e, A*11:60e, A*11:61e, A*11:62e, A*11:63e, A*11:64e, A*11:65e, A*11:66e, A*11:67e, A*11:68e, A*11:69Ne, A*11:70:01e, A*11:71e, A*11:72e, A*11:73e, A*11:74e, A*11:75e, A*11:76e, A*11:79e, A*11:80e, A*11:81e, A*11:82e, A*11:83e, A*11:84e, A*11:85e, A*11:86e, A*11:87e, A*11:88e, A*11:89e, A*11:91:01e, A*11:91:02e, A*11:92e, A*11:93e, A*11:95e, A*11:96e, A*11:97e, A*11:98e, A*11:99Ne, A*11:100e, A*11:102e, A*11:103e, A*11:104e, A*11:105e, A*11:106e, A*11:107e, A*11:108e, A*11:109Ne, A*11:111e, A*11:112e, A*11:114e, A*11:115Ne, A*11:116e, A*11:117e, A*11:120e, A*11:121e, A*11:122e, A*11:123e, A*11:124e, A*11:125e, A*11:126e, A*11:127Ne, A*11:128e, A*11:129e, A*11:131e, A*11:132e, A*11:133e, A*11:134e, A*11:135e, A*11:136e, A*11:137Ne, A*11:138e, A*11:141e, A*11:142e, A*11:143e, A*11:144e, A*11:145e, A*11:146e, A*11:148e, A*11:149e, A*11:150e, A*11:151e, A*11:152e, A*11:153:01e, A*11:153:02e, A*11:154e, A*11:155e, A*11:156e, A*11:159e, A*11:160e, A*11:161e, A*11:162e, A*11:163e, A*11:164e, A*11:166e, A*11:167e, A*11:169e, A*11:170Qe, A*11:171e, A*11:172e, A*11:173e, A*11:174e, A*11:175e, A*11:177e, A*11:179e, A*11:180Ne, A*11:181e, A*11:184e, A*11:185e, A*11:186e, A*11:187e, A*11:188e, A*11:189e, A*11:192e, A*11:193e, A*11:194e, A*11:195e, A*11:196e, A*11:197e, A*11:198e, A*11:200e, A*11:202e, A*11:203e, A*11:204e, A*11:205e, A*11:207e, A*11:208Ne, A*11:210Ne, A*11:212e, A*11:213e, A*11:214e, A*11:215Ne, A*11:216e, A*11:217e, A*11:218e, A*11:219e, A*11:220e, A*11:221e, A*11:224e, A*11:225e, A*11:227e, A*11:228e, A*11:229e, A*11:230e, A*11:231e, A*11:232e, A*11:233e, A*11:234e, A*11:235Qe	-
A*24	A*24:02:01:01, A*24:02:01:02L, A*24:07:01, A*24:20; A*24:02:01:03e, A*24:02:01:04e, A*24:02:01:05e, A*24:02:02d, A*24:02:04e, A*24:02:05e, A*24:02:06e, A*24:02:07e, A*24:02:08e, A*24:02:09e, A*24:02:10e, A*24:02:11e, A*24:02:12e, A*24:02:13e, A*24:02:14e, A*24:02:15e, A*24:02:16e, A*24:02:17e, A*24:02:18e, A*24:02:19e, A*24:02:20e, A*24:02:21e, A*24:02:22e, A*24:02:23e, A*24:02:24e, A*24:02:25e, A*24:02:26e, A*24:02:28e, A*24:02:29e, A*24:02:30e, A*24:02:31e, A*24:02:32e, A*24:02:33e, A*24:02:34e, A*24:02:35e, A*24:02:36e, A*24:02:37e, A*24:02:38e, A*24:02:39e, A*24:02:40e, A*24:02:41e, A*24:02:42e, A*24:02:43e, A*24:02:44e, A*24:02:45e, A*24:02:46e, A*24:02:47e, A*24:02:48e, A*24:02:49e, A*24:02:50e, A*24:02:51e, A*24:02:52e, A*24:02:53e, A*24:02:54e, A*24:02:55e, A*24:02:56e, A*24:02:57e, A*24:02:58e, A*24:02:59e, A*24:02:60e, A*24:02:61e, A*24:02:62e, A*24:02:63e, A*24:02:64e, A*24:02:65e, A*24:02:66e, A*24:02:67e, A*24:02:68e, A*24:02:69e, A*24:02:70e, A*24:02:71e, A*24:02:72e, A*24:02:73e, A*24:02:74e, A*24:02:75e, A*24:02:76e, A*24:02:77e, A*24:02:78e, A*24:02:79e, A*24:02:80e, A*24:02:81e, A*24:02:82e, A*24:02:83e, A*24:02:84e, A*24:02:85e, A*24:02:86e, A*24:02:87e, A*24:02:88e, A*24:02:89e, A*24:02:90e, A*24:02:91e, A*24:02:92e, A*24:02:93e, A*24:02:94e, A*24:02:95e, A*24:02:96e, A*24:06d, A*24:07:02e, A*24:13:01d, A*24:13:02e, A*24:21:01e, A*24:21:02e, A*24:21:03e, A*24:27e, A*24:37d, A*24:43d, A*24:58d, A*24:76e, A*24:78e	A24
	A*24:23d	A2403
	A*24:11Nd, A*24:40Ne, A*24:45Ne, A*24:48Ne, A*24:60Ne	Null
	A*24:25; A*24:02:03Qe, A*24:26d, A*24:30d, A*24:31d, A*24:32d, A*24:34e, A*24:35d, A*24:38d, A*24:39e, A*24:46e, A*24:47d, A*24:49e, A*24:50e, A*24:52e, A*24:54e, A*24:55e, A*24:56d, A*24:59e, A*24:61e, A*24:63e, A*24:68e, A*24:69e, A*24:70e, A*24:72d, A*24:73e, A*24:74:01e, A*24:74:02e, A*24:75e, A*24:77e, A*24:79e, A*24:80e, A*24:81d, A*24:83Ne, A*24:84Ne, A*24:85e, A*24:86Ne, A*24:87e, A*24:88e, A*24:90:01Nd, A*24:90:02Ne, A*24:91e, A*24:93e, A*24:95d, A*24:96e, A*24:97e, A*24:98e, A*24:99e, A*24:100e, A*24:101e, A*24:102e, A*24:103e, A*24:105e, A*24:107e, A*24:108e, A*24:110e, A*24:111e, A*24:112e, A*24:113e, A*24:114e, A*24:115e, A*24:116e, A*24:117e, A*24:118e, A*24:119e, A*24:121e, A*24:122e, A*24:123e, A*24:126e, A*24:127e, A*24:128e, A*24:130e, A*24:131e, A*24:132Ne, A*24:133e, A*24:134e, A*24:135:01e, A*24:135:02e, A*24:136e, A*24:137e, A*24:139e, A*24:140e, A*24:141e, A*24:142e, A*24:143e, A*24:144e, A*24:146e, A*24:147e, A*24:148e, A*24:149e, A*24:150e, A*24:151e, A*24:152e, A*24:153e, A*24:154e, A*24:155Ne, A*24:157e, A*24:158Ne, A*24:159e, A*24:160e, A*24:161e, A*24:162e, A*24:163Ne, A*24:164e, A*24:165e, A*24:166e, A*24:168e, A*24:169e, A*24:170e, A*24:171e, A*24:172:01e, A*24:172:02e, A*24:173e, A*24:174e, A*24:175e, A*24:176e, A*24:178e, A*24:179e, A*24:180e, A*24:181e, A*24:182e, A*24:183Ne, A*24:184e, A*24:185Ne, A*24:186e, A*24:187e, A*24:188e, A*24:189e, A*24:192e, A*24:193e, A*24:194e, A*24:195e, A*24:196e, A*24:197e, A*24:198e, A*24:200e, A*24:201e, A*24:202e, A*24:203e, A*24:205e, A*24:206e, A*24:209e, A*24:212e, A*24:213e, A*24:214e, A*24:215e, A*24:216e, A*24:217e, A*24:218e, A*24:219e, A*24:220e, A*24:221e, A*24:223e, A*24:224e, A*24:225:01e, A*24:225:02e, A*24:226:01e, A*24:226:02e, A*24:227e, A*24:228e, A*24:229e, A*24:230e, A*24:231e, A*24:232Ne, A*24:233e, A*24:234e, A*24:235e, A*24:236e, A*24:237e, A*24:238e, A*24:239e, A*24:240Ne, A*24:241e, A*24:242e, A*24:244e, A*24:245e, A*24:246e, A*24:247e, A*24:248e, A*24:249e, A*24:250e, A*24:251e, A*24:252Ne, A*24:253e, A*24:254e, A*24:255e, A*24:256e, A*24:257e, A*24:258e, A*24:259e, A*24:260e, A*24:261e, A*24:262e, A*24:263e, A*24:264e, A*24:265e, A*24:266e, A*24:267e, A*24:268e, A*24:269e, A*24:270e, A*24:271e, A*24:272e, A*24:273e, A*24:274e, A*24:275e, A*24:276e, A*24:277e, A*24:278Ne, A*24:279e, A*24:280e, A*24:281e, A*24:282e, A*24:283e, A*24:284e, A*24:285e, A*24:286e, A*24:287e, A*24:288e, A*24:292e, A*24:293e, A*24:294Qe, A*24:295e, A*24:297e, A*24:298e, A*24:301e, A*24:302e, A*24:303Ne, A*24:304e, A*24:305e, A*24:306e, A*24:307e, A*24:311e, A*24:312Ne, A*24:313e, A*24:314e, A*24:316e, A*24:317e, A*24:318e, A*24:319e, A*24:320e, A*24:321e, A*24:322e, A*24:323Ne, A*24:325e, A*24:326e, A*24:327e, A*24:328e, A*24:329e, A*24:331e, A*24:332e, A*24:333e, A*24:334e	-

HLA-B

group	allele	antigen
B*13	B*13:01:01 ; B*13:01:02e, B*13:01:03e, B*13:01:04e, B*13:01:05e, B*13:01:06e, B*13:01:07e, B*13:01:08e, B*13:01:09e, B*13:01:10e, B*13:01:11e	B13
	B*13:06e, B*13:12:01d, B*13:12:02e, B*13:17e, B*13:23e, B*13:28e, B*13:29e, B*13:43e, B*13:50e, B*13:52e, B*13:57e, B*13:60e, B*13:61e, B*13:63Ne, B*13:73e, B*13:76Ne, B*13:77e, B*13:78e, B*13:80e, B*13:83e, B*13:87e	-
B*46	B*46:01:01 ; B*46:01:02e, B*46:01:03e, B*46:01:04e, B*46:01:05e, B*46:01:06e, B*46:01:07e, B*46:01:08e, B*46:01:09e, B*46:01:10e, B*46:01:11e, B*46:01:12e, B*46:01:13e, B*46:01:14e, B*46:01:15e, B*46:01:16e, B*46:01:17e, B*46:01:18e, B*46:01:20e, B*46:01:21e, B*46:02d, B*46:03e	B46
	B*46:07Ne	Null
	B*46:08e, B*46:09e, B*46:10e, B*46:12e, B*46:13:01e, B*46:13:02e, B*46:13:03e, B*46:14e, B*46:15Ne, B*46:16e, B*46:19e, B*46:20e, B*46:21:01e, B*46:21:02e, B*46:22e, B*46:23e, B*46:24e, B*46:25e, B*46:26e, B*46:27e, B*46:28e, B*46:29e, B*46:30e, B*46:31e, B*46:34e, B*46:35e, B*46:36e, B*46:37e, B*46:38e, B*46:39e, B*46:42e, B*46:43e, B*46:44e, B*46:46e, B*46:48e, B*46:50e, B*46:51Qe, B*46:52e, B*46:53e, B*46:55Ne, B*46:56e, B*46:57e, B*46:58e, B*46:59e, B*46:60e, B*46:61e, B*46:62e, B*46:63e, B*46:64e, B*46:65e	-

Bw

allele	antigen
B*13:01:01 ; B*13:01:02e, B*13:01:03e, B*13:01:04e, B*13:01:05e, B*13:01:06e, B*13:01:07e, B*13:01:08e, B*13:01:09e, B*13:01:10e, B*13:01:11e, B*13:06e, B*13:12:01d, B*13:12:02e, B*13:17e, B*13:23e, B*13:28e, B*13:29e, B*13:43e, B*13:50e, B*13:52e, B*13:57e, B*13:60e, B*13:61e, B*13:63Ne, B*13:73e, B*13:76Ne, B*13:77e, B*13:78e, B*13:80e, B*13:83e, B*13:87e	Bw4
B*46:01:01 ; B*46:01:02e, B*46:01:03e, B*46:01:04e, B*46:01:05e, B*46:01:06e, B*46:01:07e, B*46:01:08e, B*46:01:09e, B*46:01:10e, B*46:01:11e, B*46:01:12e, B*46:01:13e, B*46:01:14e, B*46:01:15e, B*46:01:16e, B*46:01:17e, B*46:01:18e, B*46:01:20e, B*46:01:21e, B*46:02d, B*46:03e, B*46:07Ne, B*46:08e, B*46:09e, B*46:10e, B*46:12e, B*46:13:01e, B*46:13:02e, B*46:13:03e, B*46:14e, B*46:15Ne, B*46:16e, B*46:19e, B*46:20e, B*46:21:01e, B*46:21:02e, B*46:22e, B*46:23e, B*46:24e, B*46:25e, B*46:26e, B*46:27e, B*46:28e, B*46:29e, B*46:30e, B*46:31e, B*46:34e, B*46:35e, B*46:36e, B*46:37e, B*46:38e, B*46:39e, B*46:42e, B*46:43e, B*46:44e, B*46:46e, B*46:48e, B*46:50e, B*46:51Qe, B*46:52e, B*46:53e, B*46:55Ne, B*46:56e, B*46:57e, B*46:58e, B*46:59e, B*46:60e, B*46:61e, B*46:62e, B*46:63e, B*46:64e, B*46:65e	Bw6

Notice: The Bw4 Bw6 test detects HLA-B locus alleles only.

HLA-C

group	allele	antigen
C*01	C*01:02:01 ; C*01:02:02e, C*01:02:03e, C*01:02:04e, C*01:02:05e, C*01:02:07e, C*01:02:08e, C*01:02:09e, C*01:02:10e, C*01:02:11e, C*01:02:12e, C*01:02:13e, C*01:02:14e, C*01:02:15e, C*01:02:16e, C*01:02:17e, C*01:02:18e, C*01:02:19e, C*01:02:20e, C*01:02:21e, C*01:02:22e, C*01:02:23e, C*01:02:24e, C*01:02:25e, C*01:02:26e, C*01:02:27e, C*01:02:28e, C*01:02:29e, C*01:02:30e, C*01:02:31e, C*01:02:32e, C*01:02:33e, C*01:02:35e, C*01:02:36e, C*01:03d, C*01:09e	Cw1
	C*01:05e, C*01:06d, C*01:07:01d, C*01:07:02e, C*01:08d, C*01:10d, C*01:11e, C*01:12:01e, C*01:12:02e, C*01:14e, C*01:15e, C*01:18e, C*01:19e, C*01:20e, C*01:22e, C*01:24e, C*01:25e, C*01:26e, C*01:27d, C*01:28e, C*01:29e, C*01:30e, C*01:31e, C*01:32e, C*01:33e, C*01:34e, C*01:35e, C*01:36e, C*01:37Ne, C*01:38e, C*01:39e, C*01:40e, C*01:41e, C*01:42e, C*01:44e, C*01:45e, C*01:46e, C*01:47e, C*01:48e, C*01:49:01e, C*01:49:02e, C*01:50e, C*01:51e, C*01:52e, C*01:53e, C*01:54e, C*01:55e, C*01:56Ne, C*01:57e, C*01:59e, C*01:60e, C*01:61e, C*01:62e, C*01:63:01e, C*01:63:02e, C*01:64e, C*01:65e, C*01:66e, C*01:67e, C*01:68e, C*01:69Ne, C*01:70e, C*01:71e, C*01:72e, C*01:73e, C*01:74e, C*01:75e, C*01:76e, C*01:77e, C*01:78e, C*01:79:01e, C*01:79:02e, C*01:80e, C*01:81e, C*01:82e, C*01:83e, C*01:84e, C*01:85e, C*01:86Ne, C*01:87e, C*01:88e, C*01:89Ne, C*01:90e, C*01:91e, C*01:92e, C*01:93e, C*01:94e, C*01:95e, C*01:96e, C*01:98Ne, C*01:99e, C*01:100e, C*01:101e, C*01:102e, C*01:103e, C*01:104e, C*01:105e, C*01:106e, C*01:107e, C*01:108e, C*01:109Ne, C*01:110e, C*01:111Ne, C*01:112e, C*01:113e, C*01:114e, C*01:115e, C*01:116e, C*01:117Ne, C*01:118e, C*01:119e	-
C*03	C*03:10d, C*03:24e, C*03:40:01d, C*03:40:03e, C*03:40:04e	Cw3
	C*03:04:01:01, C*03:04:02, C*03:06:01 ; C*03:04:01:02e, C*03:04:03e, C*03:04:04e, C*03:04:05e, C*03:04:06e, C*03:04:07e, C*03:04:08e, C*03:04:09e, C*03:04:10e, C*03:04:11e, C*03:04:12e, C*03:04:13e, C*03:04:14e, C*03:04:15e, C*03:04:16e, C*03:04:17e, C*03:04:18e, C*03:04:19e, C*03:04:20e, C*03:04:21e, C*03:04:22e, C*03:04:23e, C*03:04:24e, C*03:04:26e, C*03:04:28e, C*03:04:29e, C*03:04:30e, C*03:04:31e, C*03:04:32e, C*03:04:33e, C*03:04:34e, C*03:04:35e, C*03:04:36e, C*03:04:37e, C*03:04:38e, C*03:04:39e, C*03:04:40e, C*03:04:41e, C*03:04:42e, C*03:04:43e, C*03:04:44e, C*03:04:45e, C*03:04:46e, C*03:04:47e, C*03:04:48e, C*03:04:49e, C*03:06:02e, C*03:26e, C*03:28e	Cw10
C*03	C*03:08d, C*03:23e, C*03:29e, C*03:32e, C*03:34e, C*03:35d, C*03:37:01e, C*03:37:02e, C*03:38:01e, C*03:38:02e, C*03:41:01e, C*03:41:02e, C*03:44e, C*03:46e, C*03:47e, C*03:48e, C*03:51e, C*03:54e, C*03:57:01e, C*03:57:02e, C*03:61e, C*03:63e, C*03:64:01e, C*03:64:02e, C*03:65e, C*03:70e, C*03:72e, C*03:73e, C*03:74e, C*03:77e, C*03:78e, C*03:82e, C*03:87:02e, C*03:90e, C*03:91:01e, C*03:91:02e, C*03:93e, C*03:98e, C*03:100e, C*03:101e, C*03:104e, C*03:105e, C*03:106e, C*03:107e, C*03:109e, C*03:111e, C*03:114e, C*03:115e, C*03:118e, C*03:123e, C*03:125e, C*03:128e, C*03:129e, C*03:130e, C*03:131e, C*03:134e, C*03:135e, C*03:136e, C*03:137e, C*03:138e, C*03:140e, C*03:142e, C*03:145e, C*03:147e, C*03:148e, C*03:149e, C*03:153e, C*03:154e, C*03:155e, C*03:156e, C*03:157e, C*03:159e, C*03:160e, C*03:162e, C*03:164e, C*03:166e, C*03:170e, C*03:172e, C*03:173e, C*03:174e, C*03:178e, C*03:179e, C*03:180e, C*03:181e, C*03:183e, C*03:184:01e, C*03:184:02e, C*03:186:01e, C*03:186:02e, C*03:191e, C*03:193e, C*03:194e, C*03:198e, C*03:208Ne, C*03:209e, C*03:210e, C*03:211:01e, C*03:211:02e, C*03:212e, C*03:213e,	-

C*03:215e, C*03:218e, C*03:219e, C*03:232e, C*03:233e, C*03:234e, C*03:235e, C*03:236e, C*03:239e, C*03:244Qe, C*03:246e, C*03:247e, C*03:250e, C*03:252e, C*03:255e, C*03:256e, C*03:257e, C*03:259e, C*03:260e, C*03:261e, C*03:265Ne, C*03:266e, C*03:269e, C*03:270e, C*03:272e, C*03:277Ne, C*03:278e, C*03:279e, C*03:281e, C*03:282e, C*03:283e, C*03:286e, C*03:287e, C*03:294e, C*03:303e, C*03:305e, C*03:306e, C*03:309e, C*03:310e, C*03:311e

HLA-DR

HLA-DRB1

More than one genotype can explain the reaction pattern!

group	allele	antigen
DRB1*07	DRB1*07:01:01:01; DRB1*07:01:01:02e, DRB1*07:01:02e, DRB1*07:01:03e, DRB1*07:01:04e, DRB1*07:01:05e, DRB1*07:01:06e, DRB1*07:01:07e, DRB1*07:01:08e, DRB1*07:01:09e, DRB1*07:01:10e, DRB1*07:01:11e, DRB1*07:01:12e, DRB1*07:01:13e, DRB1*07:01:14e, DRB1*07:01:15e, DRB1*07:01:16e, DRB1*07:01:17e, DRB1*07:01:18e, DRB1*07:03d, DRB1*07:04e, DRB1*07:09e	DR7
	DRB1*07:10Ne	Null
DRB1*07	DRB1*07:05d, DRB1*07:06e, DRB1*07:07d, DRB1*07:08e, DRB1*07:11d, DRB1*07:12e, DRB1*07:13d, DRB1*07:14e, DRB1*07:15e, DRB1*07:16e, DRB1*07:17e, DRB1*07:18e, DRB1*07:19e, DRB1*07:20e, DRB1*07:21e, DRB1*07:22e, DRB1*07:23e, DRB1*07:24e, DRB1*07:25e, DRB1*07:26Ne, DRB1*07:27e, DRB1*07:28e, DRB1*07:29e, DRB1*07:30e, DRB1*07:31e, DRB1*07:32e, DRB1*07:33e, DRB1*07:34e, DRB1*07:35e, DRB1*07:36e, DRB1*07:37e, DRB1*07:38e, DRB1*07:39e, DRB1*07:40e, DRB1*07:41e, DRB1*07:42e, DRB1*07:43e, DRB1*07:44e, DRB1*07:45e, DRB1*07:46e, DRB1*07:47e, DRB1*07:48e, DRB1*07:49e, DRB1*07:51e, DRB1*07:52e, DRB1*07:53e, DRB1*07:54e, DRB1*07:55e, DRB1*07:56e, DRB1*07:57e, DRB1*07:58Ne, DRB1*07:59e, DRB1*07:60e, DRB1*07:61e, DRB1*07:62e, DRB1*07:63e, DRB1*07:64e, DRB1*07:65e, DRB1*07:66e, DRB1*07:67e, DRB1*07:68Ne	-
DRB1*14	DRB1*14:07:01; DRB1*14:01:02e, DRB1*14:01:03e, DRB1*14:01:04e, DRB1*14:07:02e, DRB1*14:26e, DRB1*14:60e	DR14
	DRB1*14:54:01; DRB1*14:32:01e, DRB1*14:32:02e, DRB1*14:32:03e, DRB1*14:35e, DRB1*14:39e, DRB1*14:54:02e, DRB1*14:54:03e, DRB1*14:54:04e, DRB1*14:54:05e, DRB1*14:55e, DRB1*14:62e, DRB1*14:70d, DRB1*14:75e, DRB1*14:86e, DRB1*14:87e, DRB1*14:88e, DRB1*14:90e, DRB1*14:92Ne, DRB1*14:99e, DRB1*14:110e, DRB1*14:112e, DRB1*14:113e, DRB1*14:114e, DRB1*14:117e, DRB1*14:118e, DRB1*14:119e, DRB1*14:122e, DRB1*14:124e, DRB1*14:125e, DRB1*14:129e, DRB1*14:131e, DRB1*14:137Ne, DRB1*14:139e, DRB1*14:140e, DRB1*14:142e, DRB1*14:146e, DRB1*14:147e, DRB1*14:149e, DRB1*14:150e, DRB1*14:151e, DRB1*14:153e, DRB1*14:157e, DRB1*14:158e, DRB1*14:163e, DRB1*14:164e, DRB1*14:166Ne, DRB1*14:168e	-

This genotype was **AUTOMATICALLY** chosen because it is the only one which does not require a rare allele.

OR

group	allele	antigen
DRB1*14	DRB1*14:07:01; DRB1*14:01:02e, DRB1*14:01:03e, DRB1*14:01:04e, DRB1*14:07:02e, DRB1*14:08d, DRB1*14:10d, DRB1*14:26e, DRB1*14:60e	DR14
	DRB1*14:54:01; DRB1*14:23:02e, DRB1*14:31e, DRB1*14:32:01e, DRB1*14:32:02e, DRB1*14:32:03e, DRB1*14:34e, DRB1*14:35e, DRB1*14:39e, DRB1*14:54:02e, DRB1*14:54:03e, DRB1*14:54:04e, DRB1*14:54:05e, DRB1*14:55e, DRB1*14:61d, DRB1*14:62e, DRB1*14:70d, DRB1*14:72e, DRB1*14:73e, DRB1*14:75e, DRB1*14:86e, DRB1*14:87e, DRB1*14:88e, DRB1*14:90e, DRB1*14:92Ne, DRB1*14:97e, DRB1*14:99e, DRB1*14:101e, DRB1*14:104e, DRB1*14:107e, DRB1*14:110e, DRB1*14:111e, DRB1*14:112e, DRB1*14:113e, DRB1*14:114e, DRB1*14:117e, DRB1*14:118e, DRB1*14:119e, DRB1*14:122e, DRB1*14:124e, DRB1*14:125e, DRB1*14:129e, DRB1*14:130e, DRB1*14:131e, DRB1*14:133e, DRB1*14:137Ne, DRB1*14:139e, DRB1*14:140e, DRB1*14:142e, DRB1*14:143e, DRB1*14:146e, DRB1*14:147e, DRB1*14:149e, DRB1*14:150e, DRB1*14:151e, DRB1*14:152Ne, DRB1*14:153e, DRB1*14:157e, DRB1*14:158e, DRB1*14:162e, DRB1*14:163e, DRB1*14:164e, DRB1*14:166Ne, DRB1*14:168e	-
DRB1*14	DRB1*14:26e	DR14

This genotype consists of alleles from a single group.

One side of this genotype requires a RARE allele, which makes this call less likely.

HLA-DRB345

group	allele	antigen
DRB3*02	DRB3*02:01, DRB3*02:02:01:01; DRB3*02:02:01:02e, DRB3*02:02:02d, DRB3*02:02:03e, DRB3*02:02:04e, DRB3*02:02:05e, DRB3*02:02:06e, DRB3*02:07e, DRB3*02:08e, DRB3*02:11d	DR52
	DRB3*02:04e, DRB3*02:05e, DRB3*02:06d, DRB3*02:12e, DRB3*02:13e, DRB3*02:14e, DRB3*02:15e, DRB3*02:16e, DRB3*02:17d, DRB3*02:18e, DRB3*02:19e, DRB3*02:21e, DRB3*02:22e, DRB3*02:23e, DRB3*02:24e, DRB3*02:25e, DRB3*02:26e, DRB3*02:28e, DRB3*02:29Ne, DRB3*02:30e, DRB3*02:31e, DRB3*02:32e, DRB3*02:33e	-
DRB4*01	DRB4*01:03:01:01, DRB4*01:03:03; DRB4*01:03:01:03e, DRB4*01:03:02d, DRB4*01:03:04e, DRB4*01:05e	DR53
	DRB4*01:04e, DRB4*01:07e, DRB4*01:08e, DRB4*01:09e, DRB4*01:10e	-

HLA-DQA1

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group	allele	antigen
DQA1*01	DQA1*01:04:01:01, DQA1*01:05:01; DQA1*01:04:01:02e, DQA1*01:04:02e, DQA1*01:05:02e, DQA1*01:06e, DQA1*01:07Qe, DQA1*01:08e, DQA1*01:09e, DQA1*01:12e	-
DQA1*02	DQA1*02:01	-

HLA-DQB1

group	allele	antigen
DQB1*02	DQB1*02:02:01:01; DQB1*02:01:02e, DQB1*02:01:03e, DQB1*02:01:04e, DQB1*02:01:05e, DQB1*02:01:06e, DQB1*02:01:07e, DQB1*02:01:08e, DQB1*02:01:09e, DQB1*02:01:10e, DQB1*02:01:11e, DQB1*02:01:12e, DQB1*02:01:13e, DQB1*02:01:14e, DQB1*02:01:15e, DQB1*02:01:16e, DQB1*02:01:17e, DQB1*02:01:18e, DQB1*02:01:19e, DQB1*02:01:20e, DQB1*02:01:21e, DQB1*02:01:22e, DQB1*02:01:23e, DQB1*02:02:02e	DQ2
	DQB1*02:04e, DQB1*02:05e, DQB1*02:06e, DQB1*02:07:01e, DQB1*02:07:02e, DQB1*02:08e, DQB1*02:09e, DQB1*02:10e, DQB1*02:11e, DQB1*02:12e, DQB1*02:13e, DQB1*02:14:01e, DQB1*02:14:02e, DQB1*02:15e, DQB1*02:16e, DQB1*02:17e, DQB1*02:18Ne, DQB1*02:19e, DQB1*02:20Ne, DQB1*02:21e, DQB1*02:22e, DQB1*02:23e, DQB1*02:24e, DQB1*02:25e, DQB1*02:26e, DQB1*02:27e, DQB1*02:28e, DQB1*02:29e, DQB1*02:30e, DQB1*02:31e, DQB1*02:32e, DQB1*02:33e, DQB1*02:34e, DQB1*02:35e, DQB1*02:36e, DQB1*02:37e, DQB1*02:38e, DQB1*02:39e, DQB1*02:40e, DQB1*02:41e, DQB1*02:42e, DQB1*02:43e, DQB1*02:44e, DQB1*02:45e, DQB1*02:46e, DQB1*02:47e, DQB1*02:48e, DQB1*02:49e, DQB1*02:50e, DQB1*02:51e, DQB1*02:52e, DQB1*02:53Qe, DQB1*02:55e, DQB1*02:56e, DQB1*02:57e, DQB1*02:58Ne, DQB1*02:59e, DQB1*02:60e, DQB1*02:61e, DQB1*02:62e, DQB1*02:63e, DQB1*02:64e, DQB1*02:65e	-
DQB1*05	DQB1*05:02:01, DQB1*05:04; DQB1*05:02:02e, DQB1*05:02:03e, DQB1*05:02:04e, DQB1*05:02:05e, DQB1*05:02:06e, DQB1*05:02:07e, DQB1*05:02:08e, DQB1*05:02:09e, DQB1*05:02:10e, DQB1*05:02:11e, DQB1*05:02:12e, DQB1*05:02:13e	DQ5
	DQB1*05:05:01e, DQB1*05:05:02e, DQB1*05:14e, DQB1*05:17e, DQB1*05:19e, DQB1*05:26e, DQB1*05:33e, DQB1*05:34e, DQB1*05:35e, DQB1*05:36e, DQB1*05:37e, DQB1*05:46e, DQB1*05:47e, DQB1*05:52e, DQB1*05:53e, DQB1*05:57e, DQB1*05:58e, DQB1*05:59e, DQB1*05:65e, DQB1*05:77e, DQB1*05:79e, DQB1*05:83e, DQB1*05:86e, DQB1*05:87Qe, DQB1*05:90Ne, DQB1*05:94e, DQB1*05:97e, DQB1*05:100e, DQB1*05:102e, DQB1*05:106e, DQB1*05:113e, DQB1*05:116e, DQB1*05:117e, DQB1*05:118e	-

HLA-DPA1

group	allele	antigen
DPA1*02	DPA1*02:01:01:01, DPA1*02:02:01; DPA1*02:01:01:02e, DPA1*02:01:02e, DPA1*02:01:03e, DPA1*02:01:04e, DPA1*02:01:05e, DPA1*02:01:06e, DPA1*02:01:07e, DPA1*02:01:08e, DPA1*02:02:02e, DPA1*02:02:03e, DPA1*02:02:04e, DPA1*02:02:05e, DPA1*02:02:06e, DPA1*02:03e, DPA1*02:04e, DPA1*02:05e, DPA1*02:06e	-
DPA1*02	DPA1*02:01:01:01, DPA1*02:02:01; DPA1*02:01:01:02e, DPA1*02:01:02e, DPA1*02:01:03e, DPA1*02:01:04e, DPA1*02:01:05e, DPA1*02:01:06e, DPA1*02:01:07e, DPA1*02:01:08e, DPA1*02:02:02e, DPA1*02:02:03e, DPA1*02:02:04e, DPA1*02:02:05e, DPA1*02:02:06e, DPA1*02:03e, DPA1*02:04e, DPA1*02:05e, DPA1*02:06e	-

This genotype consists of alleles from a single group.

Notice: This genotype consists of alleles from a single group.

For your information, the following alleles may not be detected by any assay in this test:

*DPA1*01:13e*

HLA-DPB1

More than one epitope can explain the reaction pattern!

epitope	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP05	DPB1*05:01:01; DPB1*05:01:02e, DPB1*05:01:03e, DPB1*05:01:04e, DPB1*05:01:05e, DPB1*05:01:06e, DPB1*05:01:07e / DPB1*38:01d / DPB1*97:01e / DPB1*135:01e / DPB1*140:01e / DPB1*170:01e / DPB1*171:01e / DPB1*300:01e / DPB1*301:01e / DPB1*317:01e / DPB1*331:01e / DPB1*395:01e / DPB1*473:01e	LFQG	EELV	EAE	ILEEK	M	DEAV
EDP17	DPB1*17:01; DPB1*168:01e / DPB1*241:01e / DPB1*245:01e / DPB1*361:01e / DPB1*407:01e / DPB1*447:01e	VHQL	EEFV	DED	ILEEE	M	DEAV

This epitope was AUTOMATICALLY chosen because it is the only one which does not require a rare allele.

OR

epitope	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP05	DPB1*05:01:01; DPB1*05:01:02e, DPB1*05:01:03e, DPB1*05:01:04e, DPB1*05:01:05e, DPB1*05:01:06e, DPB1*05:01:07e / DPB1*38:01d / DPB1*97:01e / DPB1*135:01e / DPB1*140:01e / DPB1*170:01e / DPB1*171:01e / DPB1*300:01e / DPB1*301:01e / DPB1*317:01e / DPB1*331:01e / DPB1*395:01e / DPB1*473:01e	LFQG	EELV	EAE	ILEEK	M	DEAV

EDP251	DPB1*251:01e	MHQL	EEFV	DED	ILEEE	M	DEAV
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One side of this epitope requires a RARE allele, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP05	DPB1*05:01:01 ; DPB1*05:01:02e, DPB1*05:01:03e, DPB1*05:01:04e, DPB1*05:01:05e, DPB1*05:01:06e, DPB1*05:01:07e / DPB1*38:01d / DPB1*97:01e / DPB1*135:01e / DPB1*140:01e / DPB1*170:01e / DPB1*171:01e / DPB1*300:01e / DPB1*301:01e / DPB1*317:01e / DPB1*331:01e / DPB1*395:01e / DPB1*473:01e	LFQG	EELV	EAE	ILEEK	M	DEAV
EDP343	DPB1*343:01e	VHQL	QEFV	DED	ILEEE	M	DEAV

One side of this epitope requires a RARE allele, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP223	DPB1*223:01e	LSQG	EELV	EAE	ILEEK	M	DEAV
EDP17	DPB1*17:01 ; DPB1*168:01e / DPB1*241:01e / DPB1*245:01e / DPB1*361:01e / DPB1*407:01e / DPB1*447:01e	VHQL	EEFV	DED	ILEEE	M	DEAV

One side of this epitope requires a RARE allele, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP226	DPB1*226:01e	LFQG	EELV	EAE	ILAEK	M	DEAV
EDP17	DPB1*17:01 ; DPB1*168:01e / DPB1*241:01e / DPB1*245:01e / DPB1*361:01e / DPB1*407:01e / DPB1*447:01e	VHQL	EEFV	DED	ILEEE	M	DEAV

One side of this epitope requires a RARE allele, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP330	DPB1*330:01e	LFQG	EELV	EAE	ILEEK	M	DAAV
EDP17	DPB1*17:01 ; DPB1*168:01e / DPB1*241:01e / DPB1*245:01e / DPB1*361:01e / DPB1*407:01e / DPB1*447:01e	VHQL	EEFV	DED	ILEEE	M	DEAV

One side of this epitope requires a RARE allele, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP527	DPB1*527:01e	LFQG	EDLV	EAE	ILEEK	M	DEAV
EDP17	DPB1*17:01 ; DPB1*168:01e / DPB1*241:01e / DPB1*245:01e / DPB1*361:01e / DPB1*407:01e / DPB1*447:01e	VHQL	EEFV	DED	ILEEE	M	DEAV

One side of this epitope requires a RARE allele, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP22	DPB1*22:01d	LFQG	EELV	EAE	ILEEE	M	DEAV
EDP98	DPB1*98:01e	VHQL	EEFV	DED	ILEEK	M	DEAV

Both sides of this epitope require RARE alleles, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP223	DPB1*223:01e	LSQG	EELV	EAE	ILEEK	M	DEAV
EDP251	DPB1*251:01e	MHQL	EEFV	DED	ILEEE	M	DEAV

Both sides of this epitope require RARE alleles, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP223	DPB1*223:01e	LSQG	EELV	EAE	ILEEK	M	DEAV
EDP343	DPB1*343:01e	VHQL	QEFV	DED	ILEEE	M	DEAV

Both sides of this epitope require RARE alleles, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP226	DPB1*226:01e	LFQG	EELV	EAE	ILAEK	M	DEAV
EDP251	DPB1*251:01e	MHQL	EEFV	DED	ILEEE	M	DEAV

Both sides of this epitope require RARE alleles, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP226	DPB1*226:01e	LFQG	EELV	EAE	ILAEK	M	DEAV
EDP343	DPB1*343:01e	VHQL	QEFV	DED	ILEEE	M	DEAV

Both sides of this epitope require RARE alleles, which makes this call less likely.

OR

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP330	DPB1*330:01e	LFQG	EELV	EAE	ILEEK	M	DAAV
EDP251	DPB1*251:01e	MHQL	EEFV	DED	ILEEE	M	DEAV

Both sides of this epitope require RARE alleles, which makes this call less likely.

OR

epitype	allele
EDP527	DPB1*527:01e
EDP251	DPB1*251:01e

HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
LFQG	EDLV	EAE	ILEEK	M	DEAV
MHQL	EEFV	DED	ILEEE	M	DEAV

Both sides of this epitype require RARE alleles, which makes this call less likely.

OR

epitype	allele
EDP330	DPB1*330:01e
EDP343	DPB1*343:01e

HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
LFQG	EELV	EAE	ILEEK	M	DAAV
VHQL	QEFV	DED	ILEEE	M	DEAV

Both sides of this epitype require RARE alleles, which makes this call less likely.

OR

epitype	allele
EDP527	DPB1*527:01e
EDP343	DPB1*343:01e

HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
LFQG	EDLV	EAE	ILEEK	M	DEAV
VHQL	QEFV	DED	ILEEE	M	DEAV

Both sides of this epitype require RARE alleles, which makes this call less likely.

HAPLOTYPES

B-C

B*46	C*01	AFA	API	EUR	HIS
46:01	01:02	-	5.797% (1)	-	-
46:01	01:03	-	0.171% (77)	-	-
46:01	01:05	-	0.028% (219)	-	-

B*13	C*03	AFA	API	EUR	HIS
13:01	03:04	0.021% (207)	2.734% (9)	-	0.075% (130)

DQB1-DRB1

The following combinations of possible allele assignments match documented haplotypes:

DQB1*05	DRB1*14	AFA	API	EUR	HIS
05:02	14:07	-	0.088% (58)	-	-

However, the following combinations of possible allele assignments do not match documented haplotypes:

DQB1*02 DRB1*07

For your information, here are similar documented haplotypes:

DQB1*02	DRB1*07	AFA	API	EUR	HIS
02:01	07:01	9.911% (2)	5.516% (3)	10.081% (3)	9.926% (1)
02:01	07:03	-	0.044% (92)	-	-

TEST INFO

Sample ID : **AC-109**
Patient ID : **AC109**

Test Date : **4/13/2017**

Kit Name : **LinkSeq HLA ABCDRDQDP SABR**
Kit Lot # : **K3415-A**
Plate 1 ID : **EX061623-ARM**

SUMMARY

This session includes tests for A, B, C, DR, DQA, DQB, DPA, and DPB.

test	genotype	phenotype	test	genotype	phenotype
HLA-A	A*01 A*32	A1 A32	HLA-C	C*02 C*04	Cw2 Cw4
HLA-B	B*40 B*44	B61 B44	Bw		Bw4 Bw6
HLA-DRB1	DRB1*04 DRB1*13	DR4 DR13	HLA-DRB345	DRB3*02 DRB4*01	DR52 DR53
HLA-DQA1	DQA1*01 DQA1*03	DQA1*01 DQA1*03	HLA-DQB1	DQB1*03 DQB1*06	DQ8 DQ6
HLA-DPA1	DPA1*01 DPA1*01	DPA1*01 DPA1*01			

test	epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
HLA-DPB1	EDP03	(21 rare alleles)	VYQL	EEFV	DED	LLEEK	V	DEAV
	EDP04	DPB1*04:01:01:01 (plus 103 rare alleles)	LFQG	EEFA	AAE	ILEEK	M	GGPM

The HLA-DPB1 test result requires a **rare** allele assignment.

(Notice: Cannot exclude other combinations. Review all results.)

All test results are based on IMGT/HLA release: version 3.23.0 - January 2016

LABORATORY ASSIGNMENT

HLA-A : A1 A32	HLA-B : B61 B44	Bw : Bw4 Bw6
HLA-C : Cw2 Cw4	HLA-DRB1 : DR4 DR13	HLA-DRB345 : DR52 DR53
HLA-DQA1 : DQA1*01 DQA1*03	HLA-DQB1 : DQ8 DQ6	
HLA-DPA1 : DPA1*01 DPA1*01	HLA-DPB1 : DPB1*104:01 DPB1*04:01	

NOTES

DPB1*104:01 CANNOT EXCLUDE DPB1:78:01 OR OTHER RARE ALLELES

REVIEW

Analyzed By:

Signature:

Date:

HLA-A

group	allele	antigen
A*01	A*01:01:01:01, A*01:02; A*01:01:02e, A*01:01:03e, A*01:01:04e, A*01:01:05e, A*01:01:06e, A*01:01:07e, A*01:01:08e, A*01:01:09e, A*01:01:10e, A*01:01:11e, A*01:01:12e, A*01:01:13e, A*01:01:14e, A*01:01:15e, A*01:01:16e, A*01:01:17e, A*01:01:18e, A*01:01:19e, A*01:01:20e, A*01:01:21e, A*01:01:22e, A*01:01:23e, A*01:01:24e, A*01:01:25e, A*01:01:27e, A*01:01:28e, A*01:01:29e, A*01:01:30e, A*01:01:31e, A*01:01:32e, A*01:01:33e, A*01:01:34e, A*01:01:35e, A*01:01:36e, A*01:01:37e, A*01:01:39e, A*01:01:40e, A*01:01:41e, A*01:01:42e, A*01:01:43e, A*01:01:44e, A*01:01:45e, A*01:01:46e, A*01:01:47e, A*01:01:48e, A*01:01:49e, A*01:01:50e, A*01:01:51e, A*01:01:52e, A*01:01:53e, A*01:01:54e, A*01:01:55e, A*01:01:57e, A*01:01:58e, A*01:01:59e, A*01:01:60e, A*01:01:61e, A*01:01:62e, A*01:01:63e, A*01:01:64e, A*01:01:65e, A*01:01:66e, A*01:01:67e, A*01:01:68e, A*01:01:69e, A*01:01:70e, A*01:01:71e, A*01:01:72e, A*01:01:73e, A*01:08e, A*01:19e	A1
	A*01:01:01:02Ne, A*01:04Nd, A*01:11Ne, A*01:15Ne, A*01:16Ne, A*01:18Ne, A*01:22Ne, A*01:27Ne	Null
A*01	A*01:01:38Le, A*01:06d, A*01:09d, A*01:10e, A*01:14e, A*01:17d, A*01:21e, A*01:23e, A*01:24e, A*01:25d, A*01:26e, A*01:28e, A*01:29e, A*01:30e, A*01:31Ne, A*01:32e, A*01:33e, A*01:35e, A*01:36e, A*01:37e, A*01:38e, A*01:39e, A*01:40e, A*01:41e, A*01:42e, A*01:43e, A*01:44e, A*01:45e, A*01:46e, A*01:47e, A*01:48e, A*01:49e, A*01:50e, A*01:51e, A*01:52:01Ne, A*01:52:02Ne, A*01:53Ne, A*01:54e, A*01:55e, A*01:56Ne, A*01:57Ne, A*01:58e, A*01:59e, A*01:60e, A*01:61e, A*01:62e, A*01:63e, A*01:64e, A*01:65e, A*01:67:01e, A*01:68e, A*01:70e, A*01:71e, A*01:72e, A*01:74e, A*01:75e, A*01:76e, A*01:77e, A*01:78e, A*01:79e, A*01:80e, A*01:81e, A*01:82e, A*01:83:01e, A*01:83:02e, A*01:84e, A*01:85e, A*01:86e, A*01:87Ne, A*01:88e, A*01:89e, A*01:90e, A*01:91e, A*01:92e, A*01:93e, A*01:94e, A*01:95e, A*01:96e, A*01:97e, A*01:98e, A*01:99e, A*01:100e, A*01:101e, A*01:103e, A*01:104e, A*01:105e, A*01:106e, A*01:107e, A*01:108e, A*01:109e, A*01:110e, A*01:111e, A*01:112e, A*01:113e, A*01:114e, A*01:115e, A*01:116e, A*01:117e, A*01:118e, A*01:119e, A*01:120e, A*01:121e, A*01:122e, A*01:123Ne, A*01:124e, A*01:125e, A*01:126e, A*01:128e, A*01:129e, A*01:131e, A*01:132e, A*01:133e, A*01:134e, A*01:135e, A*01:137e, A*01:138e, A*01:139e, A*01:140e, A*01:141e, A*01:142e, A*01:143e, A*01:144e, A*01:145e, A*01:146e, A*01:147Qe, A*01:148e, A*01:149e, A*01:150e, A*01:151e, A*01:152e, A*01:153e, A*01:154e, A*01:155e, A*01:156e, A*01:157e, A*01:158e, A*01:159e, A*01:160Ne, A*01:161e, A*01:162Ne, A*01:163e, A*01:164e, A*01:165e, A*01:166e, A*01:167e, A*01:168e, A*01:169e, A*01:170e, A*01:171e, A*01:172e, A*01:173e, A*01:174e, A*01:175e, A*01:177e, A*01:178Ne, A*01:179Ne, A*01:180e, A*01:181e, A*01:182e, A*01:183e, A*01:184e, A*01:185e, A*01:186Ne, A*01:187e, A*01:188e, A*01:189e, A*01:190e, A*01:191e, A*01:193e, A*01:195e, A*01:196e, A*01:197e, A*01:198e, A*01:199e	-
A*32	A*32:01:01; A*32:01:02e, A*32:01:03e, A*32:01:04e, A*32:01:05e, A*32:01:06e, A*32:01:07e, A*32:01:08e, A*32:01:09e, A*32:01:10e, A*32:01:11e, A*32:01:12e, A*32:01:13e, A*32:01:14e, A*32:01:15e, A*32:01:16e, A*32:01:17e, A*32:01:19e, A*32:01:20e, A*32:01:21e, A*32:01:22e, A*32:01:23e, A*32:02d, A*32:14e	A32
	A*32:03d, A*32:05e, A*32:06d, A*32:07d, A*32:08d, A*32:09e, A*32:10e, A*32:11Qe, A*32:12e, A*32:13e, A*32:16e, A*32:17e, A*32:18e, A*32:19Ne, A*32:20e, A*32:21e, A*32:22e, A*32:23e, A*32:25e, A*32:26e, A*32:27Ne, A*32:29e, A*32:30e, A*32:31e, A*32:32e, A*32:33:01e, A*32:33:02e, A*32:34e, A*32:35e, A*32:36e, A*32:37e, A*32:38e, A*32:39e, A*32:40e, A*32:41e, A*32:43e, A*32:44e, A*32:45Ne, A*32:46e, A*32:47e, A*32:48Ne, A*32:49e, A*32:50e, A*32:51e, A*32:52e, A*32:53e, A*32:54e, A*32:55:01e, A*32:55:02e, A*32:56Ne, A*32:57e, A*32:58e, A*32:59e, A*32:60e, A*32:61e, A*32:62e, A*32:63e, A*32:64e, A*32:65e, A*32:67e, A*32:68e, A*32:69e, A*32:70e, A*32:71e, A*32:72e, A*32:73e, A*32:74e, A*32:75e, A*32:76e, A*32:77e, A*32:78e, A*32:80e, A*32:81e, A*32:82e, A*32:83e, A*32:84e	-

HLA-B

group	allele	antigen
B*40	B*40:02:01, B*40:27:01; B*40:02:02e, B*40:02:03e, B*40:02:04e, B*40:02:05e, B*40:02:06e, B*40:02:07e, B*40:02:09e, B*40:02:10e, B*40:02:11e, B*40:02:12e, B*40:02:13e, B*40:02:14e, B*40:02:15e, B*40:02:16e, B*40:02:17e, B*40:02:18e, B*40:02:19e, B*40:02:20e, B*40:02:21e, B*40:02:22e, B*40:02:23e, B*40:02:24e, B*40:03d, B*40:09d, B*40:11:01d, B*40:11:02e, B*40:20d, B*40:27:02e, B*40:29e, B*40:35:01e, B*40:35:02e, B*40:50d, B*40:56e	B61
	B*40:08; B*40:18e, B*40:37e, B*40:40d, B*40:57e, B*40:58e, B*40:78e, B*40:82e, B*40:85e, B*40:89e, B*40:90d, B*40:91e, B*40:94d, B*40:97e, B*40:99e, B*40:104e, B*40:105e, B*40:107e, B*40:111e, B*40:115e, B*40:119e, B*40:122e, B*40:133Qe, B*40:142Ne, B*40:143e, B*40:144Ne, B*40:145e, B*40:164e, B*40:169e, B*40:173e, B*40:176e, B*40:181e, B*40:189e, B*40:200e, B*40:202e, B*40:203e, B*40:205e, B*40:206e, B*40:211e, B*40:214e, B*40:219e, B*40:220e, B*40:224e, B*40:225e, B*40:226e, B*40:229e, B*40:232e, B*40:243e, B*40:246e, B*40:248e, B*40:254e, B*40:255e, B*40:266e, B*40:267e, B*40:271e, B*40:274e, B*40:276e, B*40:283e, B*40:284e, B*40:287e, B*40:289e, B*40:290e, B*40:291Ne, B*40:293e, B*40:296e, B*40:297e, B*40:302e, B*40:303e, B*40:304e, B*40:305e, B*40:314e, B*40:320e, B*40:322e	-
B*44	B*44:03:01:01, B*44:03:02; B*44:03:01:02e, B*44:03:03e, B*44:03:04e, B*44:03:05e, B*44:03:06e, B*44:03:07e, B*44:03:08e, B*44:03:09e, B*44:03:10e, B*44:03:11e, B*44:03:12e, B*44:03:13e, B*44:03:15e, B*44:03:16e, B*44:03:17e, B*44:03:18e, B*44:03:19e, B*44:03:20e, B*44:03:21e, B*44:03:22e, B*44:03:23e, B*44:03:24e, B*44:03:25e, B*44:03:26e, B*44:03:27e, B*44:03:28e, B*44:03:29e, B*44:03:30e, B*44:03:31e, B*44:03:32e, B*44:03:33e, B*44:07d, B*44:13e, B*44:29d, B*44:32e, B*44:54e	B44
	B*44:26e, B*44:30e, B*44:36e, B*44:38e, B*44:39e, B*44:45e, B*44:61Ne, B*44:65e, B*44:69e, B*44:81e, B*44:85e, B*44:92e, B*44:94e, B*44:96e, B*44:98e, B*44:103e, B*44:105e, B*44:108Ne, B*44:110e, B*44:111e, B*44:114e, B*44:115e, B*44:120e, B*44:122e, B*44:124e, B*44:125e, B*44:128:01e, B*44:128:02e, B*44:135e, B*44:141e, B*44:143e, B*44:147e, B*44:153e, B*44:154e, B*44:155e, B*44:157e, B*44:159e, B*44:160Qe, B*44:161e, B*44:163e, B*44:164e, B*44:165e, B*44:167e, B*44:174e, B*44:175e, B*44:178e, B*44:180e, B*44:181e, B*44:183e, B*44:186e, B*44:188e, B*44:189e, B*44:192e, B*44:193e, B*44:197e, B*44:198Ne, B*44:199e, B*44:203e, B*44:204e, B*44:207e, B*44:209e, B*44:215e, B*44:222e, B*44:223e, B*44:227e, B*44:228e, B*44:231e, B*44:232e, B*44:233e, B*44:237Ne	-

Bw

allele	antigen
B*44:03:01:01, B*44:03:02; B*44:03:01:02e, B*44:03:03e, B*44:03:04e, B*44:03:05e, B*44:03:06e, B*44:03:07e, B*44:03:08e, B*44:03:09e, B*44:03:10e, B*44:03:11e, B*44:03:12e, B*44:03:13e, B*44:03:15e, B*44:03:16e, B*44:03:17e, B*44:03:18e, B*44:03:19e, B*44:03:20e, B*44:03:21e, B*44:03:22e, B*44:03:23e, B*44:03:24e, B*44:03:25e, B*44:03:26e, B*44:03:27e, B*44:03:28e, B*44:03:29e, B*44:03:30e, B*44:03:31e, B*44:03:32e, B*44:03:33e, B*44:07d, B*44:13e, B*44:26e, B*44:29d, B*44:30e, B*44:32e, B*44:36e, B*44:38e, B*44:39e, B*44:45e, B*44:54e, B*44:61Ne, B*44:65e, B*44:69e, B*44:81e, B*44:85e, B*44:92e, B*44:94e, B*44:96e, B*44:98e, B*44:103e, B*44:105e, B*44:108Ne, B*44:110e, B*44:111e, B*44:114e, B*44:115e, B*44:120e, B*44:122e, B*44:124e, B*44:125e, B*44:128:01e, B*44:128:02e, B*44:135e, B*44:141e, B*44:143e, B*44:147e, B*44:153e, B*44:154e, B*44:155e, B*44:157e, B*44:159e, B*44:160Qe, B*44:161e, B*44:163e, B*44:164e, B*44:165e, B*44:167e, B*44:174e, B*44:175e, B*44:178e, B*44:180e, B*44:181e, B*44:183e, B*44:186e, B*44:188e, B*44:189e, B*44:192e, B*44:193e, B*44:197e, B*44:198Ne, B*44:199e, B*44:203e, B*44:204e, B*44:207e, B*44:209e, B*44:215e, B*44:222e, B*44:223e, B*44:227e, B*44:228e, B*44:231e, B*44:232e, B*44:233e, B*44:237Ne	Bw4
B*40:02:01, B*40:08, B*40:27:01; B*40:02:02e, B*40:02:03e, B*40:02:04e, B*40:02:05e, B*40:02:06e, B*40:02:07e, B*40:02:09e, B*40:02:10e, B*40:02:11e, B*40:02:12e, B*40:02:13e, B*40:02:14e, B*40:02:15e, B*40:02:16e, B*40:02:17e, B*40:02:18e, B*40:02:19e, B*40:02:20e, B*40:02:21e, B*40:02:22e, B*40:02:23e, B*40:02:24e, B*40:03d, B*40:09d, B*40:11:01d, B*40:11:02e, B*40:18e, B*40:20d, B*40:27:02e, B*40:29e, B*40:35:01e, B*40:35:02e, B*40:37e, B*40:40d, B*40:50d, B*40:56e, B*40:57e, B*40:58e, B*40:78e, B*40:82e, B*40:85e, B*40:89e, B*40:90d, B*40:91e, B*40:94d, B*40:97e, B*40:99e, B*40:104e, B*40:105e, B*40:107e, B*40:111e, B*40:115e, B*40:119e, B*40:122e, B*40:133Qe, B*40:142Ne, B*40:143e, B*40:144Ne, B*40:145e, B*40:164e, B*40:169e, B*40:173e, B*40:176e, B*40:181e, B*40:189e, B*40:200e, B*40:202e, B*40:203e, B*40:205e, B*40:206e, B*40:211e, B*40:214e, B*40:219e, B*40:220e, B*40:224e, B*40:225e, B*40:226e, B*40:229e, B*40:232e, B*40:243e, B*40:246e, B*40:248e, B*40:254e, B*40:255e, B*40:266e, B*40:267e, B*40:271e, B*40:274e, B*40:276e, B*40:283e, B*40:284e, B*40:287e, B*40:289e, B*40:290e, B*40:291Ne, B*40:293e, B*40:296e, B*40:297e, B*40:302e, B*40:303e, B*40:304e, B*40:305e, B*40:314e, B*40:320e, B*40:322e	Bw6

HLA-C

group	allele	antigen
C*02	C*02:02:02:01, C*02:10:01:01; C*02:02:01d, C*02:02:02:02e, C*02:02:03e, C*02:02:05e, C*02:02:06e, C*02:02:07e, C*02:02:08e, C*02:02:09e, C*02:02:10e, C*02:02:11e, C*02:02:12e, C*02:02:14e, C*02:02:15e, C*02:02:16e, C*02:02:17e, C*02:02:18e, C*02:02:19e, C*02:02:20e, C*02:02:21e, C*02:02:22e, C*02:02:23e, C*02:02:24e, C*02:02:25e, C*02:02:26e, C*02:02:27e, C*02:02:28e, C*02:02:30e, C*02:08d, C*02:10:01:02e	Cw2
	C*02:04d, C*02:05:02e, C*02:05:03e, C*02:07d, C*02:09e, C*02:11e, C*02:12e, C*02:13e, C*02:14:01d, C*02:14:02e, C*02:15e, C*02:19d, C*02:20e, C*02:21e, C*02:22e, C*02:23e, C*02:24e, C*02:25Qe, C*02:26:01e, C*02:26:02e, C*02:26:03e, C*02:27:01e, C*02:27:02e, C*02:28e, C*02:29e, C*02:30e, C*02:31e, C*02:33e, C*02:34e, C*02:35e, C*02:36e, C*02:37e, C*02:38Ne, C*02:39e, C*02:40:01e, C*02:40:02e, C*02:42e, C*02:44e, C*02:45e, C*02:46e, C*02:48e, C*02:50e, C*02:52Ne, C*02:53:01e, C*02:53:02e, C*02:54e, C*02:56e, C*02:57e, C*02:58e, C*02:59e, C*02:60e, C*02:61e, C*02:62e, C*02:63e, C*02:64e, C*02:65e, C*02:66e, C*02:67Qe, C*02:68e, C*02:69e, C*02:70e, C*02:71e, C*02:72e, C*02:73e, C*02:74e, C*02:75e, C*02:76e, C*02:77e, C*02:78e, C*02:79e, C*02:80e, C*02:81e, C*02:82e, C*02:83e, C*02:84e, C*02:85e, C*02:86e, C*02:88e, C*02:89e, C*02:90e, C*02:91e, C*02:92Ne, C*02:93e, C*02:94e, C*02:95e, C*02:96e, C*02:97e, C*02:98e, C*02:99e, C*02:100e, C*02:101e, C*02:102e, C*02:103e, C*02:104e, C*02:105Ne, C*02:106e, C*02:107e, C*02:108e, C*02:109e, C*02:110e, C*02:111e, C*02:112e	-
C*04	C*04:01:01:01, C*04:07; C*04:01:01:02e, C*04:01:01:03e, C*04:01:01:04e, C*04:01:01:05e, C*04:01:01:06e, C*04:01:02e, C*04:01:03e, C*04:01:04e, C*04:01:05e, C*04:01:06e, C*04:01:09e, C*04:01:10e, C*04:01:11e, C*04:01:12e, C*04:01:13e, C*04:01:14e, C*04:01:15e, C*04:01:16e, C*04:01:17e, C*04:01:18e, C*04:01:19e, C*04:01:20e, C*04:01:21e, C*04:01:22e, C*04:01:24e, C*04:01:25e, C*04:01:26e, C*04:01:27e, C*04:01:28e, C*04:01:29e, C*04:01:30e, C*04:01:31e, C*04:01:32e, C*04:01:33e, C*04:01:34e, C*04:01:35e, C*04:01:36e, C*04:01:37e, C*04:01:38e, C*04:01:39e, C*04:01:40e, C*04:01:41e, C*04:01:42e, C*04:01:43e, C*04:01:44e, C*04:01:45e, C*04:01:46e, C*04:01:47e, C*04:01:48e, C*04:01:49e, C*04:01:50e, C*04:01:51e, C*04:01:52e, C*04:01:53e, C*04:01:54e, C*04:01:55e, C*04:01:56e, C*04:01:57e, C*04:01:58e, C*04:01:59e, C*04:01:60e, C*04:01:61e, C*04:01:62e, C*04:01:63e, C*04:01:64e, C*04:01:65e, C*04:01:66e, C*04:01:67e, C*04:01:68e, C*04:01:69e, C*04:01:70e, C*04:10d, C*04:20e	Cw4
	C*04:04:01; C*04:04:02e, C*04:05d, C*04:08d, C*04:11e, C*04:12e, C*04:14e, C*04:15:01e, C*04:15:02e, C*04:15:03e, C*04:18e, C*04:19d, C*04:23e, C*04:24e, C*04:25e, C*04:26e, C*04:27d, C*04:28e, C*04:29e, C*04:30e, C*04:31e, C*04:32e, C*04:33e, C*04:34e, C*04:35e, C*04:36e, C*04:38e, C*04:39e, C*04:40e, C*04:41e, C*04:43e, C*04:44e, C*04:45e, C*04:46e, C*04:47e, C*04:48e, C*04:49e, C*04:50e, C*04:51e, C*04:52e, C*04:53e, C*04:54e, C*04:55e, C*04:56e, C*04:57e, C*04:59Qe, C*04:60e, C*04:62e, C*04:63e, C*04:64:01e, C*04:64:02e, C*04:65e, C*04:66e, C*04:67e, C*04:69e, C*04:70e, C*04:71e, C*04:72e, C*04:73e, C*04:74e, C*04:75e, C*04:76e, C*04:77e, C*04:78e, C*04:79e, C*04:81e, C*04:82d, C*04:83e, C*04:84e, C*04:85e, C*04:86e, C*04:87e, C*04:88Ne, C*04:89e, C*04:90e, C*04:91e, C*04:92e, C*04:93Ne, C*04:95Ne, C*04:96e, C*04:97e, C*04:98:01e, C*04:98:02e, C*04:99e, C*04:101e, C*04:102e, C*04:104e, C*04:105Ne, C*04:106e, C*04:108e, C*04:109e, C*04:110e, C*04:111e, C*04:113e, C*04:114e, C*04:115Ne, C*04:116e, C*04:117e, C*04:118e, C*04:119e, C*04:120e, C*04:121e, C*04:122e, C*04:123Ne, C*04:124e, C*04:125e, C*04:126e, C*04:127e, C*04:128e, C*04:129e, C*04:130e, C*04:131e, C*04:132e, C*04:133e, C*04:134e, C*04:135e, C*04:136e, C*04:137e, C*04:138e, C*04:139e, C*04:141e, C*04:142e, C*04:143e, C*04:144e, C*04:145e, C*04:146e, C*04:148e, C*04:149e, C*04:150e, C*04:151e, C*04:152e, C*04:153e, C*04:154e, C*04:155e, C*04:156e, C*04:157e, C*04:158e, C*04:159e, C*04:161e, C*04:162e, C*04:163e, C*04:164e, C*04:165e, C*04:166e, C*04:167e, C*04:168e, C*04:170Ne, C*04:172e, C*04:173Ne, C*04:174e, C*04:175e, C*04:176e, C*04:177e, C*04:179e, C*04:180:01e, C*04:180:02e, C*04:181e, C*04:182e, C*04:183e, C*04:184e, C*04:185e, C*04:186e, C*04:187e, C*04:188e, C*04:189e, C*04:191Ne, C*04:192e, C*04:193e, C*04:194e, C*04:195e, C*04:196e, C*04:197e, C*04:198e, C*04:199e, C*04:200e, C*04:201e, C*04:202e, C*04:203Ne, C*04:204e, C*04:205Ne, C*04:206e, C*04:207e, C*04:208e, C*04:209e, C*04:210e, C*04:211e, C*04:214e, C*04:215Ne, C*04:216e, C*04:218e, C*04:219e, C*04:221e, C*04:222e, C*04:225Ne, C*04:226e, C*04:227e, C*04:228e, C*04:229e	-

HLA-DR

HLA-DRB1

group	allele	antigen
DRB1*04	DRB1*04:02:01; DRB1*04:02:02e, DRB1*04:02:03e, DRB1*04:02:04e, DRB1*04:02:05e	DR4
	DRB1*04:18d, DRB1*04:53:02e, DRB1*04:124e, DRB1*04:133e, DRB1*04:134e, DRB1*04:185e, DRB1*04:204e	-
DRB1*13	DRB1*13:01:01; DRB1*13:01:02e, DRB1*13:01:03d, DRB1*13:01:04e, DRB1*13:01:05e, DRB1*13:01:06e, DRB1*13:01:07e, DRB1*13:01:08e, DRB1*13:01:09e, DRB1*13:01:10e, DRB1*13:01:11e, DRB1*13:01:12e, DRB1*13:01:13e, DRB1*13:01:14e, DRB1*13:01:15e, DRB1*13:01:16e, DRB1*13:02:04e, DRB1*13:02:08e, DRB1*13:02:10e, DRB1*13:08d, DRB1*13:16d, DRB1*13:19d, DRB1*13:52e, DRB1*13:57e	DR13
	DRB1*13:28e, DRB1*13:35e, DRB1*13:40d, DRB1*13:51e, DRB1*13:59d, DRB1*13:64e, DRB1*13:68e, DRB1*13:69e, DRB1*13:72e, DRB1*13:74e, DRB1*13:76d, DRB1*13:79e, DRB1*13:80e, DRB1*13:83e, DRB1*13:84e, DRB1*13:87e, DRB1*13:91e, DRB1*13:92e, DRB1*13:98e, DRB1*13:102e, DRB1*13:105e, DRB1*13:106e, DRB1*13:109e, DRB1*13:110e, DRB1*13:112e, DRB1*13:113Ne, DRB1*13:117e, DRB1*13:121e, DRB1*13:125e, DRB1*13:127e, DRB1*13:130e, DRB1*13:131e, DRB1*13:137Ne, DRB1*13:138e, DRB1*13:140e, DRB1*13:141e, DRB1*13:142Ne, DRB1*13:148e, DRB1*13:153e, DRB1*13:160e, DRB1*13:166e, DRB1*13:173e, DRB1*13:177e, DRB1*13:184e, DRB1*13:185Ne, DRB1*13:186e, DRB1*13:187e, DRB1*13:190e, DRB1*13:200Ne, DRB1*13:201e, DRB1*13:204e, DRB1*13:205e, DRB1*13:213e	-

HLA-DRB345

group	allele	antigen
DRB3*02	DRB3*02:01, DRB3*02:02:01:01; DRB3*02:02:01:02e, DRB3*02:02:02d, DRB3*02:02:03e, DRB3*02:02:04e, DRB3*02:02:05e, DRB3*02:02:06e, DRB3*02:07e, DRB3*02:08e, DRB3*02:11d	DR52
	DRB3*02:04e, DRB3*02:05e, DRB3*02:06d, DRB3*02:12e, DRB3*02:13e, DRB3*02:14e, DRB3*02:15e, DRB3*02:16e, DRB3*02:17d, DRB3*02:18e, DRB3*02:19e, DRB3*02:21e, DRB3*02:22e, DRB3*02:23e, DRB3*02:24e, DRB3*02:25e, DRB3*02:26e, DRB3*02:28e, DRB3*02:29Ne, DRB3*02:30e, DRB3*02:31e, DRB3*02:32e, DRB3*02:33e	-
DRB4*01	DRB4*01:03:01:01, DRB4*01:03:03; DRB4*01:03:01:03e, DRB4*01:03:02d, DRB4*01:03:04e, DRB4*01:05e	DR53
	DRB4*01:04e, DRB4*01:07e, DRB4*01:08e, DRB4*01:09e, DRB4*01:10e	-

HLA-DQA1

group	allele	antigen
DQA1*01	DQA1*01:03:01:01; DQA1*01:03:01:02e	-
DQA1*03	DQA1*03:01:01; DQA1*03:01:03e	-

HLA-DQB1

group	allele	antigen
DQB1*03	DQB1*03:02:01; DQB1*03:02:02d, DQB1*03:02:03e, DQB1*03:02:04e, DQB1*03:02:05e, DQB1*03:02:06e, DQB1*03:02:07e, DQB1*03:02:08e, DQB1*03:02:09e, DQB1*03:02:10e, DQB1*03:02:11e, DQB1*03:02:12e, DQB1*03:02:13e, DQB1*03:02:14e, DQB1*03:02:15e, DQB1*03:02:16e, DQB1*03:02:17e, DQB1*03:02:18e, DQB1*03:02:19e	DQ8
	DQB1*03:07e, DQB1*03:08e, DQB1*03:11e, DQB1*03:14:01e, DQB1*03:14:02e, DQB1*03:18e, DQB1*03:32e, DQB1*03:37e, DQB1*03:45e, DQB1*03:62e, DQB1*03:63e, DQB1*03:64e, DQB1*03:66Ne, DQB1*03:67e, DQB1*03:68e, DQB1*03:70e, DQB1*03:81e, DQB1*03:85e, DQB1*03:106e, DQB1*03:107e, DQB1*03:125e, DQB1*03:138e, DQB1*03:146e, DQB1*03:153e, DQB1*03:161e, DQB1*03:174e, DQB1*03:175e, DQB1*03:178e, DQB1*03:179e, DQB1*03:185e, DQB1*03:189e, DQB1*03:190e, DQB1*03:199e, DQB1*03:203e, DQB1*03:204e, DQB1*03:205e, DQB1*03:210e, DQB1*03:211e, DQB1*03:213Ne, DQB1*03:214e, DQB1*03:215e, DQB1*03:220e	-
DQB1*06	DQB1*06:03:01; DQB1*06:03:02e, DQB1*06:03:03e, DQB1*06:03:04e, DQB1*06:03:05e, DQB1*06:03:06e, DQB1*06:03:07e, DQB1*06:03:08e, DQB1*06:03:09e, DQB1*06:03:10e, DQB1*06:03:11e, DQB1*06:03:12e, DQB1*06:03:13e, DQB1*06:03:14e, DQB1*06:03:15e, DQB1*06:03:16e, DQB1*06:03:17e, DQB1*06:03:18e, DQB1*06:03:19e, DQB1*06:03:20e, DQB1*06:03:21e, DQB1*06:03:22e, DQB1*06:14:01e, DQB1*06:14:02e, DQB1*06:14:03e	DQ6
	DQB1*06:26Ne DQB1*06:28e, DQB1*06:30e, DQB1*06:31e, DQB1*06:32:01e, DQB1*06:32:02e, DQB1*06:40e, DQB1*06:41e, DQB1*06:44e, DQB1*06:59e, DQB1*06:60e, DQB1*06:62e, DQB1*06:64e, DQB1*06:65e, DQB1*06:67e, DQB1*06:90e, DQB1*06:91e, DQB1*06:110e, DQB1*06:128e, DQB1*06:133e, DQB1*06:134e, DQB1*06:141e, DQB1*06:143e, DQB1*06:144Ne, DQB1*06:145e, DQB1*06:148e, DQB1*06:154e, DQB1*06:165e, DQB1*06:168e, DQB1*06:170e, DQB1*06:184e, DQB1*06:185e, DQB1*06:187e, DQB1*06:191e, DQB1*06:195e, DQB1*06:196e, DQB1*06:199e	<i>Null</i> -

HLA-DPA1

group	allele	antigen

group	allele	antigen
DPA1*01	DPA1*01:03:01:01, DPA1*01:04: DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-
DPA1*01	DPA1*01:03:01:01, DPA1*01:04: DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-

HLA-DPB1

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
EDP03	DPB1*03:01:02e, DPB1*03:01:03e, DPB1*03:01:04e, DPB1*03:01:05e, DPB1*03:01:06e, DPB1*03:01:07e / DPB1*78:01d / DPB1*104:01d / DPB1*111:01e / DPB1*124:01e / DPB1*221:01e / DPB1*222:01e / DPB1*270:01e / DPB1*293:01e / DPB1*329:01e / DPB1*391:01e / DPB1*404:01e / DPB1*405:01e / DPB1*439:01e / DPB1*472:01e / DPB1*509:01e	VYQL	EEFV	DED	LLEEK	V	DEAV
EDP04	DPB1*04:01:01:01: DPB1*04:01:01:02e, DPB1*04:01:02e, DPB1*04:01:03e, DPB1*04:01:04e, DPB1*04:01:05e, DPB1*04:01:06e, DPB1*04:01:07e, DPB1*04:01:08e, DPB1*04:01:09e, DPB1*04:01:10e, DPB1*04:01:11e, DPB1*04:01:12e, DPB1*04:01:14e, DPB1*04:01:15e, DPB1*04:01:16e, DPB1*04:01:17e, DPB1*04:01:18e, DPB1*04:01:19e, DPB1*04:01:20e, DPB1*04:01:21e, DPB1*04:01:22e, DPB1*04:01:23e, DPB1*04:01:24e, DPB1*04:01:25e, DPB1*04:01:26e, DPB1*04:01:27e, DPB1*04:01:28e, DPB1*04:01:29e, DPB1*04:01:30e, DPB1*04:01:31e / DPB1*99:01e / DPB1*120:01Ne / DPB1*121:01e / DPB1*128:01e / DPB1*134:01e / DPB1*149:01e / DPB1*169:01e / DPB1*174:01e / DPB1*175:01e / DPB1*180:01e / DPB1*181:01e / DPB1*192:01e / DPB1*194:01e / DPB1*195:01e / DPB1*212:01e / DPB1*213:01e / DPB1*224:01e / DPB1*225:01e / DPB1*228:01e / DPB1*231:01e / DPB1*232:01e / DPB1*240:01e / DPB1*253:01e / DPB1*255:01e / DPB1*262:01e / DPB1*272:01e / DPB1*275:01e / DPB1*276:01e / DPB1*281:01e / DPB1*282:01e / DPB1*283:01e / DPB1*298:01e / DPB1*320:01e / DPB1*323:01e / DPB1*334:01e / DPB1*335:01e / DPB1*336:01e / DPB1*341:01e / DPB1*350:01e / DPB1*356:01e / DPB1*360:01e / DPB1*372:01e / DPB1*376:01e / DPB1*378:01e / DPB1*396:01e / DPB1*397:01e / DPB1*415:01e / DPB1*418:01e / DPB1*425:01e / DPB1*426:01e / DPB1*428:01e / DPB1*434:01e / DPB1*453:01e / DPB1*455:01Ne / DPB1*459:01e / DPB1*464:01e / DPB1*465:01e / DPB1*468:01e / DPB1*475:01e / DPB1*476:01e / DPB1*479:01e / DPB1*485:01e / DPB1*486:01e / DPB1*487:01e / DPB1*497:01e / DPB1*500:01e / DPB1*520:01e / DPB1*521:01e / DPB1*522:01e / DPB1*523:01e / DPB1*524:01e / DPB1*529:01e / DPB1*534:01e	LFQG	EEFA	AAE	ILEEK	M	GGPM

One side of this epitope requires a RARE allele, which makes this call less likely.

This epitope was MANUALLY chosen.

This epitope was selected.

Cannot exclude the following epitopes:

EDP03 (1 common) EDP216 (all rare), EDP04 (1 common) EDP506 (all rare), EDP04 (1 common) EDP507 (all rare), EDP03 (1 common) EDP176 (all rare),
EDP03 (1 common) EDP177 (all rare), EDP03 (1 common) EDP178 (all rare), EDP03 (1 common) EDP215 (all rare), EDP03 (1 common) EDP227 (all rare),
EDP03 (1 common) EDP230 (all rare), EDP03 (1 common) EDP254 (all rare), EDP03 (1 common) EDP279 (all rare), EDP03 (1 common) EDP280 (all rare),
EDP03 (1 common) EDP303 (all rare), EDP03 (1 common) EDP318 (all rare), EDP03 (1 common) EDP319 (all rare), EDP03 (1 common) EDP375 (all rare),
EDP03 (1 common) EDP399 (all rare), EDP03 (1 common) EDP427 (all rare), EDP03 (1 common) EDP454 (all rare), EDP03 (1 common) EDP456 (all rare),
EDP20 (1 common) EDP377 (all rare), EDP216 (all rare) EDP506 (all rare), EDP216 (all rare) EDP507 (all rare), EDP227 (all rare) EDP506 (all rare),
EDP227 (all rare) EDP507 (all rare), EDP230 (all rare) EDP506 (all rare), EDP230 (all rare) EDP507 (all rare), EDP254 (all rare) EDP506 (all rare), EDP254
(all rare) EDP507 (all rare), EDP279 (all rare) EDP506 (all rare), EDP279 (all rare) EDP507 (all rare), EDP280 (all rare) EDP506 (all rare), EDP280 (all rare)
EDP507 (all rare), EDP303 (all rare) EDP506 (all rare), EDP303 (all rare) EDP507 (all rare), EDP318 (all rare) EDP506 (all rare), EDP318 (all rare) EDP507
(all rare), EDP319 (all rare) EDP506 (all rare), EDP319 (all rare) EDP507 (all rare), EDP375 (all rare) EDP506 (all rare), EDP375 (all rare) EDP507 (all rare),
EDP392 (all rare) EDP442 (all rare), EDP398 (all rare) EDP508 (all rare), EDP399 (all rare) EDP506 (all rare), EDP399 (all rare) EDP507 (all rare), EDP427
(all rare) EDP506 (all rare), EDP427 (all rare) EDP507 (all rare), EDP454 (all rare) EDP506 (all rare), EDP454 (all rare) EDP507 (all rare), EDP454 (all rare)
EDP508 (all rare), EDP456 (all rare) EDP506 (all rare), EDP456 (all rare) EDP507 (all rare), EDP132 (all rare) EDP72 (all rare), EDP176 (all rare) EDP506
(all rare), EDP176 (all rare) EDP507 (all rare), EDP177 (all rare) EDP506 (all rare), EDP177 (all rare) EDP507 (all rare), EDP178 (all rare) EDP506 (all rare),
EDP178 (all rare) EDP507 (all rare), EDP215 (all rare) EDP506 (all rare), EDP215 (all rare) EDP507 (all rare)

HAPLOTYPES

B-C

B*40	C*02	AFA	API	EUR	HIS
40:02	02:02	0.125% (91)	-	0.799% (29)	0.401% (64)

B*44	C*04	AFA	API	EUR	HIS
44:03	04:01	2.888% (8)	0.202% (73)	1.434% (19)	1.748% (15)

B*44	C*02	AFA	API	EUR	HIS
44:03	02:02	0.077% (115)	-	0.057% (74)	0.306% (71)

B*40	C*04	AFA	API	EUR	HIS
40:02	04:01	-	0.029% (228)	-	0.055% (151)

DQB1-DRB1

DQB1*03	DRB1*04	AFA	API	EUR	HIS
03:02	04:02	0.043% (98)	0.353% (41)	0.966% (19)	1.994% (14)

DQB1*06	DRB1*13	AFA	API	EUR	HIS
06:03	13:01	2.121% (15)	2.251% (16)	6.220% (5)	3.525% (9)
06:03	13:40	-	-	-	0.046% (89)

TEST INFO

Sample ID : **AC-110**
 Patient ID : **AC-110**

Test Date : **4/13/2017**

Kit Name : **LinkSeq HLA ABCDRDQDP SABR**
 Kit Lot # : **K3415-A**
 Plate 1 ID : **EX061623-ARR**

SUMMARY

This session includes tests for A, B, C, DR, DQA, DQB, DPA, and DPB.

test	genotype	phenotype	test	genotype	phenotype
HLA-A	A*33 A*68	A33 A68	HLA-C	C*07 C*07	Cw7 Cw7
HLA-B	B*07 B*15	B7 B71	Bw		Bw6 Bw6
HLA-DRB1	DRB1*04 DRB1*15	DR4 DR15	HLA-DRB345	DRB4*01 DRB5*01	DR53 DR51
HLA-DQA1	DQA1*01 DQA1*03	DQA1*01 DQA1*03	HLA-DQB1	DQB1*03 DQB1*06	DQ8 DQ6
HLA-DPA1	DPA1*01 DPA1*01	DPA1*01 DPA1*01			

test	epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
HLA-DPB1	EDP04	DPB1*04:01:01:01 (plus 103 rare alleles)	LFQG	EEFA	AAE	ILEEK	M	GGPM
	EDP06	DPB1*06:01 (plus 1 rare alleles)	VYQL	EEFV	DED	LLEEE	M	DEAV

(Notice: Cannot exclude other combinations. Review all results.)

All test results are based on IMGT/HLA release: version 3.23.0 - January 2016

LABORATORY ASSIGNMENT

HLA-A : **A33 A68** HLA-B : **B7 B71** Bw : **Bw6 Bw6**

HLA-C : **Cw7 Cw7** HLA-DRB1 : **DR4 DR15** HLA-DRB345 : **DR53 DR51**

HLA-DQA1 : **DQA1*01**
DQA1*03 HLA-DQB1 : **DQ8 DQ6**

HLA-DPA1 : **DPA1*01**
DPA1*01 HLA-DPB1 : **DPB1*04:01:01:01**
DPB1*06:01

NOTES**REVIEW**

Analyzed By:

Signature:

Date:

Reviewed By:

Signature:

Date:

HLA-A

group	allele	antigen
A*33	A*33:03:01; A*33:03:02e, A*33:03:04e, A*33:03:05e, A*33:03:06e, A*33:03:07e, A*33:03:08e, A*33:03:09e, A*33:03:10e, A*33:03:11e, A*33:03:12e, A*33:03:13e, A*33:03:14e, A*33:03:15e, A*33:03:16e, A*33:03:17e, A*33:03:18e, A*33:03:19e, A*33:03:20e, A*33:03:21e, A*33:03:22e, A*33:03:23e, A*33:03:24e, A*33:03:25e, A*33:03:26e, A*33:03:28e, A*33:03:29e, A*33:03:30e	A33
	A*33:03:03Qe, A*33:06e, A*33:10e, A*33:12e, A*33:14e, A*33:15e, A*33:17e, A*33:18:01e, A*33:20e, A*33:22e, A*33:23e, A*33:25e, A*33:26e, A*33:28e, A*33:29e, A*33:30e, A*33:31e, A*33:33e, A*33:35e, A*33:36e, A*33:37e, A*33:39e, A*33:40e, A*33:41e, A*33:42e, A*33:43e, A*33:44e, A*33:45e, A*33:46e, A*33:47e, A*33:52e, A*33:54e, A*33:55e, A*33:56e, A*33:57e, A*33:58e, A*33:59e, A*33:60e, A*33:61e, A*33:62e, A*33:63e, A*33:65e, A*33:66e, A*33:70e, A*33:71e, A*33:72e, A*33:73Ne, A*33:74Ne, A*33:75e, A*33:76e, A*33:77e, A*33:78e, A*33:79e, A*33:80Ne, A*33:81e, A*33:82e, A*33:83e, A*33:84e, A*33:85e, A*33:86e, A*33:87e, A*33:88e, A*33:89e, A*33:90e, A*33:93e, A*33:94e, A*33:95e, A*33:96Ne, A*33:97e, A*33:98e, A*33:99e, A*33:100e, A*33:101e, A*33:102e, A*33:103e, A*33:104e, A*33:105e, A*33:106e	-
A*68	A*68:12d, A*68:17d, A*68:26e	A28
	A*68:01:01:01, A*68:01:02:01; A*68:01:01:02e, A*68:01:02:02e, A*68:01:02:03e, A*68:01:03e, A*68:01:04e, A*68:01:05e, A*68:01:06e, A*68:01:07e, A*68:01:08e, A*68:01:09e, A*68:01:10e, A*68:01:11e, A*68:01:12e, A*68:01:13e, A*68:01:14e, A*68:01:15e, A*68:01:16e, A*68:01:17e, A*68:01:18e, A*68:01:19e, A*68:01:20e, A*68:01:21e, A*68:01:22e, A*68:01:23e, A*68:01:24e, A*68:01:25e, A*68:01:26e, A*68:01:27e, A*68:01:29e, A*68:01:31e, A*68:01:32e, A*68:08:01d, A*68:08:02e, A*68:16e, A*68:33e, A*68:36e	A68
	A*68:11Nd	Null
	A*68:06d, A*68:07d, A*68:09e, A*68:21:01e, A*68:21:02e, A*68:22d, A*68:23e, A*68:24d, A*68:25d, A*68:27:01d, A*68:27:02e, A*68:29e, A*68:32e, A*68:35d, A*68:37d, A*68:38e, A*68:40d, A*68:41e, A*68:42e, A*68:43:01e, A*68:43:02e, A*68:45e, A*68:46e, A*68:47e, A*68:50e, A*68:52e, A*68:55:01e, A*68:55:02e, A*68:56e, A*68:57e, A*68:58e, A*68:59Ne, A*68:63e, A*68:65e, A*68:68e, A*68:69e, A*68:70e, A*68:72e, A*68:73e, A*68:75:01e, A*68:75:02e, A*68:76:01e, A*68:76:02e, A*68:79e, A*68:84e, A*68:85e, A*68:87e, A*68:88e, A*68:89e, A*68:93e, A*68:94Ne, A*68:95e, A*68:96e, A*68:98e, A*68:99e, A*68:100e, A*68:101e, A*68:102e, A*68:103:01e, A*68:103:02e, A*68:104:01e, A*68:104:02e, A*68:106e, A*68:107e, A*68:108e, A*68:111e, A*68:112:01e, A*68:112:02e, A*68:113e, A*68:114e, A*68:115e, A*68:116e, A*68:117e, A*68:118e, A*68:119:01e, A*68:119:02e, A*68:120Ne, A*68:121e, A*68:122e, A*68:123e, A*68:127e, A*68:129e, A*68:131e, A*68:132e, A*68:133e, A*68:135e, A*68:136e, A*68:137e, A*68:139e, A*68:141e, A*68:142Ne	-

HLA-B

group	allele	antigen
B*07	B*07:02:01; B*07:02:02e, B*07:02:03e, B*07:02:04e, B*07:02:05e, B*07:02:06e, B*07:02:07e, B*07:02:08e, B*07:02:09e, B*07:02:10e, B*07:02:12e, B*07:02:13e, B*07:02:14e, B*07:02:15e, B*07:02:16e, B*07:02:17e, B*07:02:18e, B*07:02:19e, B*07:02:20e, B*07:02:21e, B*07:02:22e, B*07:02:23e, B*07:02:24e, B*07:02:25e, B*07:02:27e, B*07:02:28e, B*07:02:29e, B*07:02:30e, B*07:02:31e, B*07:02:32e, B*07:02:33e, B*07:02:34e, B*07:02:35e, B*07:02:36e, B*07:02:37e, B*07:02:38e, B*07:02:39e, B*07:02:40e, B*07:02:41e, B*07:02:42e, B*07:02:43e, B*07:02:44e, B*07:02:45e, B*07:02:46e, B*07:02:47e, B*07:02:48e, B*07:09d, B*07:11e, B*07:15d, B*07:17e, B*07:26d, B*07:30e, B*07:46d, B*07:57e, B*07:58e	B7
	B*07:49Ne	Null
B*07	B*07:20d, B*07:21e, B*07:22:01e, B*07:22:02e, B*07:23d, B*07:28e, B*07:35e, B*07:39e, B*07:41e, B*07:42d, B*07:44e, B*07:45e, B*07:47e, B*07:52e, B*07:54e, B*07:55e, B*07:59e, B*07:61e, B*07:62e, B*07:63e, B*07:64e, B*07:66e, B*07:67Ne, B*07:68:03e, B*07:70e, B*07:71e, B*07:74e, B*07:75e, B*07:76e, B*07:82e, B*07:87e, B*07:88e, B*07:89e, B*07:91e, B*07:92e, B*07:93e, B*07:94e, B*07:95e, B*07:96:01e, B*07:96:02e, B*07:98e, B*07:99e, B*07:101e, B*07:102e, B*07:103e, B*07:104e, B*07:106e, B*07:107e, B*07:108e, B*07:109e, B*07:110e, B*07:111Ne, B*07:113e, B*07:114e, B*07:116e, B*07:117e, B*07:118e, B*07:119e, B*07:120e, B*07:121e, B*07:122e, B*07:124e, B*07:125e, B*07:126e, B*07:127e, B*07:128e, B*07:129e, B*07:130e, B*07:132e, B*07:133e, B*07:135Ne, B*07:136:01e, B*07:136:02e, B*07:139e, B*07:141e, B*07:142e, B*07:143e, B*07:144e, B*07:145e, B*07:147e, B*07:148e, B*07:150e, B*07:151:01e, B*07:151:02e, B*07:152e, B*07:153e, B*07:154e, B*07:155e, B*07:156e, B*07:157e, B*07:158e, B*07:159e, B*07:160e, B*07:161Ne, B*07:165e, B*07:166e, B*07:167Ne, B*07:168e, B*07:169e, B*07:170e, B*07:171e, B*07:172e, B*07:173e, B*07:174e, B*07:175e, B*07:177e, B*07:178e, B*07:179e, B*07:181Ne, B*07:184e, B*07:185e, B*07:186e, B*07:187e, B*07:188e, B*07:189e, B*07:190e, B*07:191e, B*07:192e, B*07:194e, B*07:195e, B*07:196e, B*07:198e, B*07:199e, B*07:200e, B*07:203e, B*07:205e, B*07:208e, B*07:211e, B*07:212e, B*07:215e, B*07:216e, B*07:217e, B*07:221e, B*07:224e, B*07:229e, B*07:230e, B*07:231Ne, B*07:232e, B*07:233e, B*07:234e, B*07:238e, B*07:240e, B*07:241e, B*07:242e, B*07:243e, B*07:244e, B*07:245e, B*07:246e, B*07:247e, B*07:250e, B*07:251Ne, B*07:252e, B*07:253e, B*07:254e, B*07:256e, B*07:257e, B*07:259e, B*07:263e, B*07:265e	-
	B*15:10:01, B*15:18:01; B*15:10:02e, B*15:10:03e, B*15:10:04e, B*15:18:02e, B*15:18:04e, B*15:18:05e, B*15:18:06e, B*15:93e, B*15:108e	B71
B*15	B*15:72e, B*15:90e, B*15:99e, B*15:115e, B*15:119e, B*15:133e, B*15:134e, B*15:153e, B*15:176e, B*15:197:01e, B*15:197:02e, B*15:198e, B*15:221e, B*15:226Ne, B*15:238e, B*15:263e, B*15:290e, B*15:292e, B*15:293e, B*15:294Ne, B*15:306e, B*15:307e, B*15:311e, B*15:312e, B*15:313e, B*15:314e, B*15:337e, B*15:338e, B*15:351e, B*15:354e	-

Bw

allele	antigen
B*07:02:01 / B*15:10:01, B*15:18:01; B*07:02:02e, B*07:02:03e, B*07:02:04e, B*07:02:05e, B*07:02:06e, B*07:02:07e, B*07:02:08e, B*07:02:09e, B*07:02:10e, B*07:02:12e, B*07:02:13e, B*07:02:14e, B*07:02:15e, B*07:02:16e, B*07:02:17e, B*07:02:18e, B*07:02:19e, B*07:02:20e,	

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Bw6

HLA-C

group	allele	antigen
C*07	C*07:02:01:01, C*07:04:01; C*07:01:25e, C*07:01:46e, C*07:02:01:02e, C*07:02:01:03d, C*07:02:01:04e, C*07:02:01:05e, C*07:02:01:06e, C*07:02:02e, C*07:02:03e, C*07:02:04e, C*07:02:05e, C*07:02:06e, C*07:02:07e, C*07:02:08e, C*07:02:10e, C*07:02:11e, C*07:02:12e, C*07:02:13e, C*07:02:14e, C*07:02:15e, C*07:02:16e, C*07:02:17e, C*07:02:18e, C*07:02:19e, C*07:02:20e, C*07:02:21e, C*07:02:22e, C*07:02:23e, C*07:02:24e, C*07:02:25e, C*07:02:26e, C*07:02:27e, C*07:02:28e, C*07:02:29e, C*07:02:30e, C*07:02:31e, C*07:02:33e, C*07:02:34e, C*07:02:35e, C*07:02:36e, C*07:02:37e, C*07:02:38e, C*07:02:39e, C*07:02:40e, C*07:02:41e, C*07:02:42e, C*07:02:43e, C*07:02:44e, C*07:02:45e, C*07:02:46e, C*07:02:47e, C*07:02:48e, C*07:02:49e, C*07:02:50e, C*07:02:51e, C*07:02:52e, C*07:02:53e, C*07:02:54e, C*07:02:55e, C*07:02:56e, C*07:02:57e, C*07:02:58e, C*07:02:59e, C*07:02:60e, C*07:02:61e, C*07:02:62e, C*07:02:63e, C*07:02:64e, C*07:02:65e, C*07:02:66e, C*07:02:67e, C*07:02:68e, C*07:02:69e, C*07:02:70e, C*07:02:71e, C*07:04:02e, C*07:04:03e, C*07:04:04e, C*07:04:05e, C*07:04:06e, C*07:04:07e, C*07:04:08e, C*07:04:09e, C*07:04:10e, C*07:05d, C*07:12d, C*07:14e, C*07:16e, C*07:37e, C*07:38:01e, C*07:38:02e, C*07:45e, C*07:49e	Cw7
	C*07:32Nd, C*07:33Ne	Null
C*07	C*07:03e, C*07:07d, C*07:08e, C*07:10d, C*07:11e, C*07:13d, C*07:15e, C*07:17:01d, C*07:17:02e, C*07:23e, C*07:25d, C*07:27:01d, C*07:27:02e, C*07:29:01d, C*07:29:02e, C*07:31:02e, C*07:39e, C*07:42e, C*07:43d, C*07:46d, C*07:47e, C*07:48e, C*07:50e, C*07:51e, C*07:54e, C*07:56:01d, C*07:56:02e, C*07:60d, C*07:61Nd, C*07:62e, C*07:63e, C*07:64e, C*07:66d, C*07:67d, C*07:68e, C*07:72d, C*07:74e, C*07:75e, C*07:76:01e, C*07:76:02e, C*07:79e, C*07:80e, C*07:84e, C*07:87e, C*07:88e, C*07:90e, C*07:97e, C*07:99e, C*07:100e, C*07:102e, C*07:105e, C*07:107e, C*07:109e, C*07:114e, C*07:117e, C*07:121:01e, C*07:123e, C*07:125e, C*07:126e, C*07:127e, C*07:130e, C*07:133e, C*07:135e, C*07:136e, C*07:137:01e, C*07:137:02e, C*07:139e, C*07:142e, C*07:143e, C*07:144e, C*07:145e, C*07:146e, C*07:147e, C*07:149e, C*07:152Ne, C*07:154e, C*07:155e, C*07:157e, C*07:158e, C*07:159e, C*07:160e, C*07:167e, C*07:168e, C*07:169e, C*07:171e, C*07:172:01e, C*07:172:02e, C*07:174e, C*07:175e, C*07:177e, C*07:178e, C*07:181e, C*07:183e, C*07:184e, C*07:185e, C*07:186e, C*07:187e, C*07:192e, C*07:193e, C*07:194e, C*07:195e, C*07:198Ne, C*07:199:01e, C*07:199:02e, C*07:202e, C*07:208e, C*07:209e, C*07:211e, C*07:213e, C*07:216e, C*07:217e, C*07:218e, C*07:220e, C*07:221e, C*07:222e, C*07:226e, C*07:229e, C*07:232e, C*07:233e, C*07:234e, C*07:238e, C*07:239e, C*07:240e, C*07:241e, C*07:243e, C*07:244e, C*07:245e, C*07:251e, C*07:252e, C*07:258e, C*07:259e, C*07:260e, C*07:261e, C*07:262e, C*07:264Ne, C*07:265e, C*07:270e, C*07:271e, C*07:272e, C*07:273e, C*07:274e, C*07:275e, C*07:283e, C*07:284e, C*07:285e, C*07:286e, C*07:287e, C*07:288e, C*07:289e, C*07:290e, C*07:291e, C*07:292e, C*07:294e, C*07:302e, C*07:305e, C*07:306e, C*07:307e, C*07:308e, C*07:309e, C*07:312e, C*07:314:01e, C*07:315e, C*07:316e, C*07:318e, C*07:319e, C*07:320e, C*07:321e, C*07:322e, C*07:323e, C*07:324e, C*07:325e, C*07:326e, C*07:327e, C*07:328e, C*07:329Ne, C*07:333e, C*07:334e, C*07:335e, C*07:336e, C*07:338e, C*07:339e, C*07:340e, C*07:341e, C*07:342e, C*07:344e, C*07:345e, C*07:346e, C*07:347Ne, C*07:348e, C*07:349e, C*07:350Ne, C*07:351e, C*07:352e, C*07:354e, C*07:355e, C*07:356e, C*07:357e, C*07:358e, C*07:359e, C*07:360e, C*07:361e, C*07:363e, C*07:365e, C*07:367e, C*07:368e, C*07:372e, C*07:373e, C*07:374e, C*07:375e, C*07:376e, C*07:378e, C*07:379e, C*07:381e, C*07:382e, C*07:383e, C*07:384e, C*07:387e, C*07:388e, C*07:389e, C*07:390e, C*07:391e, C*07:392e, C*07:393Ne, C*07:394e, C*07:395e, C*07:396e, C*07:397e, C*07:398e, C*07:399e, C*07:400e, C*07:401e, C*07:402e, C*07:403e, C*07:405e, C*07:406e, C*07:409e, C*07:413e, C*07:414e, C*07:415e, C*07:416e, C*07:417e, C*07:420e, C*07:423e, C*07:425e, C*07:426e, C*07:428e, C*07:429e, C*07:432e, C*07:433e, C*07:434e, C*07:436e, C*07:437Ne, C*07:438e, C*07:439e, C*07:446e, C*07:449e, C*07:451Ne, C*07:452Ne, C*07:456e, C*07:457e, C*07:459e, C*07:464e, C*07:465e, C*07:466e, C*07:467e, C*07:472e, C*07:473e, C*07:474e, C*07:475e, C*07:476Ne, C*07:477e, C*07:478e, C*07:480e, C*07:482e, C*07:483Ne, C*07:484Ne, C*07:485e, C*07:486e, C*07:487e	
	C*07:02:01:01; C*07:02:01:02e, C*07:02:01:03d, C*07:02:01:04e, C*07:02:01:05e, C*07:02:01:06e, C*07:02:02e, C*07:02:03e, C*07:02:04e, C*07:02:05e, C*07:02:06e, C*07:02:07e, C*07:02:08e, C*07:02:10e, C*07:02:11e, C*07:02:12e, C*07:02:13e, C*07:02:14e, C*07:02:15e, C*07:02:16e, C*07:02:17e, C*07:02:18e, C*07:02:19e, C*07:02:20e, C*07:02:21e, C*07:02:22e, C*07:02:23e, C*07:02:24e, C*07:02:25e, C*07:02:26e, C*07:02:27e, C*07:02:28e, C*07:02:29e, C*07:02:30e, C*07:02:31e, C*07:02:33e, C*07:02:34e, C*07:02:35e, C*07:02:36e, C*07:02:37e, C*07:02:38e, C*07:02:39e, C*07:02:40e, C*07:02:41e, C*07:02:42e, C*07:02:43e, C*07:02:44e, C*07:02:45e, C*07:02:46e, C*07:02:47e, C*07:02:48e, C*07:02:49e, C*07:02:50e, C*07:02:51e, C*07:02:52e, C*07:02:53e, C*07:02:54e, C*07:02:55e, C*07:02:56e, C*07:02:57e, C*07:02:58e, C*07:02:59e, C*07:02:60e, C*07:02:61e, C*07:02:62e, C*07:02:63e, C*07:02:64e, C*07:02:65e, C*07:02:66e, C*07:02:67e, C*07:02:68e, C*07:02:69e, C*07:02:70e, C*07:02:71e, C*07:37e, C*07:38:01e, C*07:38:02e, C*07:49e	Cw7
	C*07:32Nd, C*07:33Ne	Null
	C*07:03e, C*07:10d, C*07:13d, C*07:15e, C*07:17:01d, C*07:17:02e, C*07:23e, C*07:25d, C*07:29:01d, C*07:29:02e,	

C*07	C*07:39e, C*07:42e, C*07:46d, C*07:47e, C*07:48e, C*07:50e, C*07:51e, C*07:54e, C*07:56:01d, C*07:56:02e, C*07:61Nd, C*07:62e, C*07:64e, C*07:66d, C*07:67d, C*07:72d, C*07:74e, C*07:75e, C*07:76:01e, C*07:76:02e, C*07:79e, C*07:80e, C*07:84e, C*07:87e, C*07:88e, C*07:90e, C*07:97e, C*07:99e, C*07:100e, C*07:102e, C*07:105e, C*07:107e, C*07:114e, C*07:117e, C*07:121Qe, C*07:123e, C*07:125e, C*07:126e, C*07:127e, C*07:130e, C*07:133e, C*07:135e, C*07:136e, C*07:137:01e, C*07:137:02e, C*07:143e, C*07:144e, C*07:145e, C*07:146e, C*07:147e, C*07:149e, C*07:152Ne, C*07:154e, C*07:155e, C*07:157e, C*07:158e, C*07:159e, C*07:160e, C*07:167e, C*07:168e, C*07:169e, C*07:171e, C*07:172:01e, C*07:172:02e, C*07:174e, C*07:175e, C*07:178e, C*07:183e, C*07:185e, C*07:186e, C*07:187e, C*07:192e, C*07:193e, C*07:194e, C*07:195e, C*07:198Ne, C*07:202e, C*07:208e, C*07:209e, C*07:211e, C*07:213e, C*07:217e, C*07:218e, C*07:220e, C*07:221e, C*07:226e, C*07:229e, C*07:232e, C*07:233e, C*07:234e, C*07:238e, C*07:239e, C*07:240e, C*07:243e, C*07:244e, C*07:245e, C*07:251e, C*07:252e, C*07:258e, C*07:259e, C*07:260e, C*07:261e, C*07:262e, C*07:264Ne, C*07:270e, C*07:271e, C*07:273e, C*07:274e, C*07:275e, C*07:283e, C*07:284e, C*07:285e, C*07:286e, C*07:287e, C*07:288e, C*07:289e, C*07:290e, C*07:291e, C*07:305e, C*07:306e, C*07:308e, C*07:309e, C*07:312e, C*07:314:01e, C*07:316e, C*07:318e, C*07:319e, C*07:320e, C*07:321e, C*07:322e, C*07:325e, C*07:326e, C*07:327e, C*07:333e, C*07:334e, C*07:335e, C*07:339e, C*07:340e, C*07:341e, C*07:344e, C*07:345e, C*07:346e, C*07:348e, C*07:349e, C*07:350Ne, C*07:351e, C*07:352e, C*07:356e, C*07:359e, C*07:360e, C*07:363e, C*07:367e, C*07:368e, C*07:372e, C*07:373e, C*07:374e, C*07:375e, C*07:376e, C*07:379e, C*07:381e, C*07:382e, C*07:383e, C*07:384e, C*07:388e, C*07:389e, C*07:390e, C*07:391e, C*07:392e, C*07:393Ne, C*07:396e, C*07:397e, C*07:398e, C*07:399e, C*07:400e, C*07:401e, C*07:402e, C*07:405e, C*07:409e, C*07:413e, C*07:414e, C*07:415e, C*07:416e, C*07:423e, C*07:425e, C*07:429e, C*07:432e, C*07:433e, C*07:434e, C*07:436e, C*07:438e, C*07:439e, C*07:446e, C*07:449e, C*07:451Ne, C*07:452Ne, C*07:456e, C*07:457e, C*07:464e, C*07:465e, C*07:472e, C*07:473e, C*07:474e, C*07:477e, C*07:478e, C*07:482e, C*07:483Ne, C*07:484Ne, C*07:485e, C*07:486e	-
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HLA-DR

HLA-DRB1

group	allele	antigen
DRB1*04	DRB1*04:04:01, DRB1*04:08:01; DRB1*04:01:09e, DRB1*04:01:13e, DRB1*04:01:14e, DRB1*04:01:15e, DRB1*04:03:05e, DRB1*04:03:11e, DRB1*04:04:02e, DRB1*04:04:03e, DRB1*04:04:04e, DRB1*04:04:05e, DRB1*04:04:06e, DRB1*04:04:07e, DRB1*04:04:08e, DRB1*04:04:09e, DRB1*04:04:10e, DRB1*04:05:17e, DRB1*04:05:18e, DRB1*04:08:02e, DRB1*04:08:03e, DRB1*04:08:04e, DRB1*04:23d, DRB1*04:25d, DRB1*04:31e, DRB1*04:32e, DRB1*04:42e	DR4
	DRB1*04:18d, DRB1*04:36e, DRB1*04:37e, DRB1*04:40d, DRB1*04:43e, DRB1*04:44e, DRB1*04:47e, DRB1*04:50d, DRB1*04:51d, DRB1*04:53:01e, DRB1*04:53:02e, DRB1*04:54d, DRB1*04:55e, DRB1*04:56:01e, DRB1*04:56:02e, DRB1*04:57e, DRB1*04:58e, DRB1*04:62e, DRB1*04:70e, DRB1*04:73e, DRB1*04:75e, DRB1*04:76e, DRB1*04:79e, DRB1*04:82e, DRB1*04:94:01Ne, DRB1*04:95:01e, DRB1*04:95:02e, DRB1*04:98:01e, DRB1*04:98:02e, DRB1*04:108e, DRB1*04:118e, DRB1*04:120Ne, DRB1*04:121e, DRB1*04:122e, DRB1*04:127e, DRB1*04:128e, DRB1*04:132e, DRB1*04:140e, DRB1*04:141e, DRB1*04:143e, DRB1*04:149e, DRB1*04:157Ne, DRB1*04:159e, DRB1*04:163e, DRB1*04:164e, DRB1*04:166e, DRB1*04:167e, DRB1*04:168e, DRB1*04:177e, DRB1*04:180e, DRB1*04:182e, DRB1*04:185e, DRB1*04:189e, DRB1*04:193e, DRB1*04:202e, DRB1*04:205e, DRB1*04:206e	-
DRB1*15	DRB1*15:08e	<i>DR2</i>
	DRB1*15:01:01:01, DRB1*15:04, DRB1*15:06:01; DRB1*15:01:01:02e, DRB1*15:01:01:03e, DRB1*15:01:01:04e, DRB1*15:01:02e, DRB1*15:01:03e, DRB1*15:01:04e, DRB1*15:01:05e, DRB1*15:01:06e, DRB1*15:01:07e, DRB1*15:01:08e, DRB1*15:01:09e, DRB1*15:01:10e, DRB1*15:01:11e, DRB1*15:01:12e, DRB1*15:01:13e, DRB1*15:01:14e, DRB1*15:01:15e, DRB1*15:01:16e, DRB1*15:01:17e, DRB1*15:01:18e, DRB1*15:01:19e, DRB1*15:01:20e, DRB1*15:01:21e, DRB1*15:01:23e, DRB1*15:01:24e, DRB1*15:01:25e, DRB1*15:01:26e, DRB1*15:01:27e, DRB1*15:01:28e, DRB1*15:02:05e, DRB1*15:02:07e, DRB1*15:02:09e, DRB1*15:05e, DRB1*15:06:02e, DRB1*15:06:03e	DR15
	DRB1*15:17Ne	<i>Null</i>
	DRB1*15:09e, DRB1*15:13e, DRB1*15:15:01e, DRB1*15:15:02e, DRB1*15:16e, DRB1*15:18d, DRB1*15:20d, DRB1*15:22d, DRB1*15:24d, DRB1*15:28e, DRB1*15:31e, DRB1*15:32e, DRB1*15:33e, DRB1*15:35e, DRB1*15:36e, DRB1*15:37:01e, DRB1*15:37:02e, DRB1*15:40e, DRB1*15:41e, DRB1*15:42e, DRB1*15:43e, DRB1*15:45e, DRB1*15:46e, DRB1*15:49e, DRB1*15:51e, DRB1*15:52e, DRB1*15:53e, DRB1*15:55e, DRB1*15:56e, DRB1*15:59e, DRB1*15:61e, DRB1*15:62e, DRB1*15:63e, DRB1*15:64e, DRB1*15:65e, DRB1*15:67e, DRB1*15:69e, DRB1*15:70e, DRB1*15:71e, DRB1*15:72e, DRB1*15:73e, DRB1*15:74e, DRB1*15:75e, DRB1*15:76e, DRB1*15:77e, DRB1*15:79e, DRB1*15:81e, DRB1*15:82e, DRB1*15:83e, DRB1*15:85e, DRB1*15:86e, DRB1*15:87e, DRB1*15:89e, DRB1*15:90e, DRB1*15:91e, DRB1*15:92e, DRB1*15:93e, DRB1*15:95e, DRB1*15:97e, DRB1*15:98e, DRB1*15:102e, DRB1*15:106e, DRB1*15:107e, DRB1*15:108e, DRB1*15:110e, DRB1*15:111e, DRB1*15:112e, DRB1*15:113Ne, DRB1*15:114e, DRB1*15:116e, DRB1*15:121e, DRB1*15:123e, DRB1*15:124e, DRB1*15:125e, DRB1*15:127e, DRB1*15:128e	-

HLA-DRB345

group	allele	antigen
DRB4*01	DRB4*01:03:01:01, DRB4*01:03:03; DRB4*01:03:01:03e, DRB4*01:03:02d, DRB4*01:03:04e, DRB4*01:05e	DR53
	DRB4*01:04e, DRB4*01:07e, DRB4*01:08e, DRB4*01:09e, DRB4*01:10e	-
DRB5*01	DRB5*01:01:01, DRB5*01:02; DRB5*01:01:02d, DRB5*01:01:03e, DRB5*01:07e	DR51
	DRB5*01:03; DRB5*01:04e, DRB5*01:05e, DRB5*01:06e, DRB5*01:09e, DRB5*01:11e, DRB5*01:12e, DRB5*01:13e, DRB5*01:14e, DRB5*01:15e, DRB5*01:16e, DRB5*01:17e	-

HLA-DQA1

group	allele	antigen
DQA1*01	DQA1*01:02:01:01; DQA1*01:01:03e, DQA1*01:02:01:02e, DQA1*01:02:01:03e, DQA1*01:02:01:04e, DQA1*01:02:02d, DQA1*01:02:03e, DQA1*01:02:04e, DQA1*01:06e, DQA1*01:08e, DQA1*01:09e, DQA1*01:10e, DQA1*01:11e, DQA1*01:12e, DQA1*01:13e	-
DQA1*03	DQA1*03:01:01; DQA1*03:01:03e	-

HLA-DQB1

group	allele	antigen
DQB1*03	DQB1*03:01:13e, DQB1*03:01:15e, DQB1*03:01:25e	DQ7
	DQB1*03:02:01; DQB1*03:02:02d, DQB1*03:02:03e, DQB1*03:02:04e, DQB1*03:02:05e, DQB1*03:02:06e, DQB1*03:02:07e, DQB1*03:02:08e, DQB1*03:02:09e, DQB1*03:02:10e, DQB1*03:02:11e, DQB1*03:02:12e, DQB1*03:02:13e, DQB1*03:02:14e, DQB1*03:02:15e, DQB1*03:02:16e, DQB1*03:02:17e, DQB1*03:02:18e, DQB1*03:02:19e	DQ8
	DQB1*03:03:13e	DQ9
DQB1*03	DQB1*03:07e, DQB1*03:08e, DQB1*03:11e, DQB1*03:14:01e, DQB1*03:14:02e, DQB1*03:16e, DQB1*03:18e, DQB1*03:23:01e, DQB1*03:23:02e, DQB1*03:32e, DQB1*03:37e, DQB1*03:45e, DQB1*03:62e, DQB1*03:63e, DQB1*03:64e, DQB1*03:66Ne, DQB1*03:67e, DQB1*03:68e, DQB1*03:70e, DQB1*03:81e, DQB1*03:85e, DQB1*03:86e, DQB1*03:104e, DQB1*03:105e, DQB1*03:106e, DQB1*03:107e, DQB1*03:110e, DQB1*03:124e, DQB1*03:125e, DQB1*03:130e, DQB1*03:138e, DQB1*03:146e, DQB1*03:153e, DQB1*03:161e, DQB1*03:172e, DQB1*03:174e, DQB1*03:175e, DQB1*03:176e, DQB1*03:178e, DQB1*03:179e, DQB1*03:185e, DQB1*03:189e, DQB1*03:190e, DQB1*03:199e, DQB1*03:203e, DQB1*03:204e, DQB1*03:205e, DQB1*03:210e, DQB1*03:211e, DQB1*03:212e, DQB1*03:213Ne, DQB1*03:214e, DQB1*03:215e, DQB1*03:217e, DQB1*03:220e	-
	DQB1*06:11:01d, DQB1*06:11:02e, DQB1*06:11:03e	DQ1
DQB1*06	DQB1*06:02:01, DQB1*06:08:01; DQB1*06:01:14e, DQB1*06:02:02e, DQB1*06:02:03e, DQB1*06:02:04e, DQB1*06:02:05e, DQB1*06:02:06e, DQB1*06:02:07e, DQB1*06:02:08e, DQB1*06:02:09e, DQB1*06:02:10e, DQB1*06:02:11e, DQB1*06:02:12e, DQB1*06:02:13e, DQB1*06:02:14e, DQB1*06:02:15e, DQB1*06:02:16e, DQB1*06:02:17e, DQB1*06:02:18e, DQB1*06:02:19e, DQB1*06:02:20e, DQB1*06:02:21e, DQB1*06:02:22e, DQB1*06:02:23e, DQB1*06:02:24e, DQB1*06:02:25e, DQB1*06:03:07e, DQB1*06:03:13e, DQB1*06:04:06e, DQB1*06:08:02e, DQB1*06:08:03e, DQB1*06:09:04e, DQB1*06:14:02e	DQ6
	DQB1*06:26Ne	Null
	DQB1*06:10d, DQB1*06:13:01e, DQB1*06:13:02e, DQB1*06:15:01e, DQB1*06:15:02e, DQB1*06:16e, DQB1*06:19:01e, DQB1*06:19:02e, DQB1*06:20e, DQB1*06:22:01e, DQB1*06:22:03e, DQB1*06:24e, DQB1*06:27:01e, DQB1*06:27:02e, DQB1*06:29e, DQB1*06:33e, DQB1*06:37e, DQB1*06:43e, DQB1*06:46e, DQB1*06:47e, DQB1*06:48e, DQB1*06:49e, DQB1*06:50e, DQB1*06:51:01e, DQB1*06:51:02e, DQB1*06:57e, DQB1*06:63e, DQB1*06:66e, DQB1*06:67e, DQB1*06:68e, DQB1*06:70e, DQB1*06:71e, DQB1*06:72e, DQB1*06:73e, DQB1*06:74e, DQB1*06:75Ne, DQB1*06:76e, DQB1*06:77Ne, DQB1*06:78e, DQB1*06:79:01e, DQB1*06:79:02e, DQB1*06:80e, DQB1*06:81e, DQB1*06:82e, DQB1*06:83e, DQB1*06:84e, DQB1*06:90e, DQB1*06:94e, DQB1*06:95e, DQB1*06:96e, DQB1*06:97e, DQB1*06:98e, DQB1*06:106e, DQB1*06:107e, DQB1*06:109e, DQB1*06:111e, DQB1*06:112Ne, DQB1*06:113e, DQB1*06:114e, DQB1*06:115e, DQB1*06:116e, DQB1*06:117e, DQB1*06:118:01e, DQB1*06:118:02e, DQB1*06:119e, DQB1*06:122e, DQB1*06:123e, DQB1*06:125e, DQB1*06:126e, DQB1*06:127e, DQB1*06:130e, DQB1*06:131e, DQB1*06:136e, DQB1*06:137e, DQB1*06:138e, DQB1*06:139e, DQB1*06:146:01e, DQB1*06:146:02e, DQB1*06:147e, DQB1*06:150e, DQB1*06:151e, DQB1*06:152e, DQB1*06:156e, DQB1*06:159e, DQB1*06:161e, DQB1*06:162e, DQB1*06:163e, DQB1*06:165e, DQB1*06:166e, DQB1*06:167e, DQB1*06:169e, DQB1*06:170e, DQB1*06:171e, DQB1*06:173e, DQB1*06:174e, DQB1*06:175e, DQB1*06:176e, DQB1*06:178e, DQB1*06:179Ne, DQB1*06:180e, DQB1*06:182e, DQB1*06:183e, DQB1*06:186e, DQB1*06:188e, DQB1*06:191e, DQB1*06:192e, DQB1*06:194e, DQB1*06:197e, DQB1*06:198e, DQB1*06:200e	-

HLA-DPA1

group	allele	antigen
DPA1*01	DPA1*01:03:01:01, DPA1*01:04; DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-
DPA1*01	DPA1*01:03:01:01, DPA1*01:04; DPA1*01:03:01:02e, DPA1*01:03:01:03e, DPA1*01:03:01:04e, DPA1*01:03:01:05e, DPA1*01:03:02e, DPA1*01:03:03e, DPA1*01:03:04e, DPA1*01:03:05e, DPA1*01:05e, DPA1*01:06:01e, DPA1*01:06:02e, DPA1*01:07e, DPA1*01:09e, DPA1*01:10e, DPA1*01:12e	-

HLA-DPB1

epitype	allele	HVR-A	HVR-B	HVR-C	HVR-D	HVR-E	HVR-F
	DPB1*04:01:01:01; DPB1*04:01:01:02e, DPB1*04:01:02e, DPB1*04:01:03e, DPB1*04:01:04e, DPB1*04:01:05e, DPB1*04:01:06e, DPB1*04:01:07e, DPB1*04:01:08e, DPB1*04:01:09e, DPB1*04:01:10e, DPB1*04:01:11e, DPB1*04:01:12e, DPB1*04:01:14e, DPB1*04:01:15e, DPB1*04:01:16e, DPB1*04:01:17e, DPB1*04:01:18e, DPB1*04:01:19e, DPB1*04:01:20e, DPB1*04:01:21e, DPB1*04:01:22e, DPB1*04:01:23e, DPB1*04:01:24e, DPB1*04:01:25e, DPB1*04:01:26e, DPB1*04:01:27e, DPB1*04:01:28e, DPB1*04:01:29e, DPB1*04:01:30e, DPB1*04:01:31e / DPB1*99:01e / DPB1*120:01Ne /						

EDP04	DPB1*121:01e / DPB1*128:01e / DPB1*134:01e / DPB1*149:01e / DPB1*169:01e / DPB1*174:01e / DPB1*175:01e / DPB1*180:01e / DPB1*181:01e / DPB1*192:01e / DPB1*194:01e / DPB1*195:01e / DPB1*212:01e / DPB1*213:01e / DPB1*224:01e / DPB1*225:01e / DPB1*228:01e / DPB1*231:01e / DPB1*232:01e / DPB1*240:01e / DPB1*253:01e / DPB1*255:01e / DPB1*262:01e / DPB1*272:01e / DPB1*275:01e / DPB1*276:01e / DPB1*281:01e / DPB1*282:01e / DPB1*283:01e / DPB1*298:01e / DPB1*320:01e / DPB1*323:01e / DPB1*334:01e / DPB1*335:01e / DPB1*336:01e / DPB1*341:01e / DPB1*350:01e / DPB1*356:01e / DPB1*360:01e / DPB1*372:01e / DPB1*376:01e / DPB1*378:01e / DPB1*396:01e / DPB1*397:01e / DPB1*415:01e / DPB1*418:01e / DPB1*425:01e / DPB1*426:01e / DPB1*428:01e / DPB1*434:01e / DPB1*453:01e / DPB1*455:01e / DPB1*459:01e / DPB1*464:01e / DPB1*465:01e / DPB1*468:01e / DPB1*475:01e / DPB1*476:01e / DPB1*479:01e / DPB1*485:01e / DPB1*486:01e / DPB1*487:01e / DPB1*497:01e / DPB1*500:01e / DPB1*520:01e / DPB1*521:01e / DPB1*522:01e / DPB1*523:01e / DPB1*524:01e / DPB1*529:01e / DPB1*534:01e	LFQG	EEFA	AAE	ILEEK	M	GGPM
EDP06	DPB1*06:01; DPB1*208:01e	VYQL	EEFV	DED	LLEEE	M	DEAV

This epitope was AUTOMATICALLY chosen because it is the only one which does not require a rare allele.

This epitope was chosen as the most likely; cannot exclude one or more rare epitopes.

HAPLOTYPES

B-C

B*07	C*07	AFA	API	EUR	HIS
07:02	07:02	5.526% (3)	2.644% (10)	13.782% (1)	4.916% (2)
07:21	07:02	-	-	0.006% (202)	-
07:09	07:02	0.021% (245)	-	-	-
07:02	07:10	-	-	0.006% (260)	-
07:02	07:04	-	-	0.003% (295)	-

B*15	C*07	AFA	API	EUR	HIS
15:18	07:04	0.083% (104)	0.455% (48)	0.121% (55)	0.301% (73)

DQB1-DRB1

DQB1*03	DRB1*04	AFA	API	EUR	HIS
03:02	04:04	0.650% (30)	0.618% (30)	3.557% (10)	4.912% (6)

DQB1*06	DRB1*15	AFA	API	EUR	HIS
06:02	15:01	3.122% (11)	4.146% (8)	14.155% (1)	6.076% (3)
06:10	15:01	-	0.088% (65)	-	-
06:02	15:04	-	-	-	0.046% (91)