

# CELL EXCHANGE #423

## AUGUST 4, 2021

Cells 1689 - 1692

The results for Cell Exchange #423 are summarized in Table 7 - 10. Molecular typing results for individual laboratories are listed in Tables 11 – 18 for each sample. Thirteen labs submitted high and/or low resolution class II results for this study. We would like to thank each of them for sharing their re-

sults and encourage other labs to do so as well so that the class II assignments can be graded. Haplotype frequencies used in this report are from the NMDP Bioinformatics website, <https://bioinformatics.bethematchclinical.org/>.

**Cell 1689.** The reported HLA type for this cell from Hispanic donor was A\*02:01-A\*68:02-B\*15:16-B\*49:01-C\*07:01-C\*14:02-DRB1\*04:05-DRB1\*07:01-DRB4\*01:03-DQA1\*02:01-DQA1\*03:03-DQB1\*02:02-DQB1\*03:02-DPA1\*01:03-DPA1\*02:01-DPB1\*04:01-DPB1\*13:01. This cell was previously examined in the Exchange as cell 1557 (2015). In this present study, > 80% agreement was achieved for all loci.

One likely association present in this cell was A\*68:02-B\*49:01-C\*07:01, observed in Hispanics, with HF = 0.00076. The other likely association present was A\*02:01-B\*15:16-C\*14:02. It is observed in African American populations, with HF = 0.00043.

**Cell 1690.** The reported HLA type for this cell from a Hispanic donor was A\*02:01-A\*03:01-B\*35:03-B\*57:03-C\*04:01-C\*07:01-DRB1\*13:02-DRB3\*03:01-DQA1\*01:02-DQB1\*06:04-DPA1\*01-DPB1\*04:01. This cell was previously examined in the Exchange as cell 1577 (2016). Good agreement (> 90%) was achieved for all loci, except DPA1. For the subtype of DPA1\*01, no agreement achieved among labs, as 5 labs assigned DPA1\*01:05 and 2 labs assigned DPA1\*01:03.

**Cell 1691.** The reported HLA type for this cell from a Filipino donor was A\*02:06-A\*11:01-B\*15:35-B\*40:01-C\*04-C\*07:02-DRB1\*04:03-DRB1\*15:02-DRB4\*01:03-DRB5\*01:02-DQA1\*01:01-DQA1\*03:01-DQB1\*03:02-DQB1\*05:01-DPA1\*02:02-DPB1\*05:01-DPB1\*05/\*135. The subtypes for B\*15, C\*04, and DPB1\*05 could not be graded for this cell, as < 90% agree-

ment was achieved for each. For B\*15, 10 lab assigned B\*15:35, 1 lab assigned B\*15:01:01G, and 1 lab assigned B\*15:01. For the subtype of C\*04, 7 labs assigned C\*04:82, 3 labs assigned C\*04:01:01G, and 2 labs assigned C\*04:01. This is the first C\*04:82 cell examined in the Exchange. Finally, for the second DPB1 allele, 7 labs assigned DPB1\*135:01 and 2 labs assigned DPB1\*05:01.

One likely association present in this cell was B\*15:35-C\*07:02-DRB1\*15:02, with HF = 0.00044, in Asians. The other likely association present was then B\*40:01-C\*04:82-DRB1\*04:03. The B\*40:01-C\*04:82 association in this cell was also observed in the Reference cell AN00978.

**Cell 1692.** The reported HLA type for this cell from an Asian donor was A\*02:07-A\*24:02-B\*15:01-B\*40:06-C\*01:02-C\*08:01-DRB1\*04:06-DRB1\*09:01-DRB4\*01:03-DQA1\*03:01-DQA1\*03:02-DQB1\*03:02-DQB1\*03:03-DPA1\*02:02-DPA1\*04:01-DPB1\*05:01-DPB1\*13/\*107. Good agreement (> 90%) was achieved for all allele assignments, except for the second DPB1 allele. Labs were split in its assignment, with 5 labs assigning DPB1\*13:01, 3 labs assigning DPB1\*107:01, and 1 lab assigning, DPB1\*13:01:01G.

One likely association present in this cell was A\*24:02-B\*40:06-DRB1\*09:01. It is observed exclusively in Asian populations, with HF = 0.00183. The other likely association present was A\*02:07-B\*15:01-DRB1\*04:06. The association of A\*02:07 with B\*15:01 is also observed exclusively in Asians, with HF = 0.00042.

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**Table 7: Summary of the 423<sup>rd</sup> Cell Exchange - DNA Typing**

**Cell 1689**

DNA Typing - class I	<u>13 labs High; 15 labs low- A</u>	%(n)	<u>15 labs High; 15 labs low- B</u>	%(n)	<u>13 labs High; 13 labs low- C</u>	%(n)
	A*02:01:01:01	8 (1)		B*15:16:01:01	7 (1)	C*07:01:01:16
A*02:01:01G	8 (1)		B*15:16:01	13(2)	C*07:01:01	15(2)
A*02:01:01	15(2)		B*15:16	80(12)	C*07:01:01G	8 (1)
A*02:01	69(9)		B*15	93(14)	C*07:01	69(9)
A*02	100(15)		B*40	7 (1)	C*07	92(12)
					C*02	8 (1)
<u>14 labs High; 15 labs low- A</u>	%(n)	<u>14 labs High; 15 labs low- B</u>	%(n)	<u>14 labs High; 12 labs low- C</u>	%(n)	
A*68:02:01:01	7 (1)	B*49:01:01:01	7 (1)	C*14:02:01:02	7 (1)	
A*68:02:01	14(2)	B*49:01:01	14(2)	C*14:02:01	14(2)	
A*68:02:01G	7 (1)	B*49:01:01G	7 (1)	C*14:02:01G	7 (1)	
A*68:02	71(10)	B*49:01	71(10)	C*14:02	71(10)	
A*68	93(7)	B*49	100(15)	C*14	100(12)	
A*69	7 (1)					

DNA Typing - class II	<u>12 labs High; 10 labs low-DRB1</u>	%(n)	<u>7 labs High; 4 labs low-DRB3/4/5</u>	%(n)	<u>10 labs High; 7 labs Low-DQA1</u>	%(n)	<u>11 labs High; 9 labs Low-DQB1</u>	%(n)	<u>7 labs High; 4 labs Low-DPA1</u>	%(n)	<u>11 labs High; 5 labs Low-DPB1</u>	%(n)
	DRB1*04:05:01	25(3)		DRB4*01:03:01	28(2)	DQA1*02:01:01	30(3)	DQB1*02:02:01	9 (1)	DPA1*01:03:01	29(2)	DPB1*04:01:01
DRB1*04:05	75(9)		DRB4*01:01:01G	14(1)	DQA1*02:01	70(7)	DQB1*02:01:01G	9 (1)	DPA1*01:03:01G	14(1)	DPB1*04:01P	9 (1)
DRB1*04	100(10)		DRB4*01:03	57(4)	DQA1*02	100(7)	DQB1*02:02	82(9)	DPA1*01:03	57(4)	DPB1*04:01	64(7)
			DRB4*01	75(3)			DQB1*02	100(9)	DPA1*01	100(4)	DPB1*133:01	9 (1)
			DRB4*PRESENT	25(1)							DPB1*04(DP401)	40(2)
											DPB1*04	60(3)
<u>11 labs High; 10 labs low-DRB1</u>	%(n)	<u>9 labs High; 7 labs Low-DQA1</u>	%(n)	<u>11 labs High; 9 labs Low-DQB1</u>	%(n)	<u>7 labs High; 4 labs Low-DPA1</u>	%(n)	<u>11 labs High; 5 labs Low-DPB1</u>	%(n)			
DRB1*07:01:01	27(3)	DQA1*03:03:01	33(3)	DQB1*03:02:01	9 (1)	DPA1*02:01:01	29(2)	DPB1*13:01:01	18(2)			
DRB1*07:01:01G	18(2)	DQA1*03:03	56(5)	DQB1*03:02:01G	9 (1)	DPA1*02:01	71(5)	DPB1*13:01:01G	9 (1)			
DRB1*07:01	55(6)	DQA1*03:02	11(1)	DQB1*03:02	82(9)	DPA1*02	100(4)	DPB1*13:01P	9 (1)			
DRB1*07	100(10)	DQA1*03	100(7)	DQB1*03	100(9)			DPB1*13:01	55(6)			
								DPB1*350:01	9 (1)			
								DPB1*13	100(5)			



**Table 9: Summary of the 423<sup>rd</sup> Cell Exchange - DNA Typing**

**Cell 1691**

DNA Typing - class I	<u>12 labs High; 13 labs low- A</u>	%(n)	<u>12 labs High; 13 labs low- B</u>	%(n)	<u>12 labs High; 12 labs low- C</u>	%(n)
	A*02:06:01:01	8 (1)		B*15:01:01G	8 (1)	C*04:82
A*02:06:01G	8 (1)		B*15:35	83(10)	C*04:01:01G	25(3)
A*02:06	83(10)		B*15:01	8 (1)	C*04:01	17(2)
A*02	100(13)		B*15	92(12)	C*04	92(11)
			B*15(B70)	8 (1)	C*02	8 (1)
<u>11 labs High; 13 labs low- A</u>	%(n)	<u>12 labs High; 13 labs low- B</u>	%(n)	<u>12 labs High; 11 labs low- C</u>	%(n)	
A*11:01:01:01	9 (1)	B*40:01:02:04	8 (1)	C*07:02:01:01	8 (1)	
A*11:01:01G	9 (1)	B*40:01:01G	17(2)	C*07:02:01G	17(2)	
A*11:01	82(9)	B*40:01	75(9)	C*07:02	75(9)	
A*11	100(13)	B*40	100(13)	C*07	100(11)	

DNA Typing - class II	<u>10 labs High; 8 labs low-DRB1</u>	%(n)	<u>5 labs High; 4 lab low-DRB3/4/5</u>	%(n)	<u>7 labs High; 6 labs Low-DQA1</u>	%(n)	<u>9 labs High; 7 labs Low-DQB1</u>	%(n)	<u>5 labs High; 4 labs Low-DPA1</u>	%(n)	<u>9 labs High; 5 labs Low-DPB1</u>	%(n)
	DRB1*04:03:01	10(1)		DRB4*01:03:01	20(1)	DQA1*01:01:01	14(1)	DQB1*03:02:01	11(1)	DPA1*02:02:02	20(1)	DPB1*05:01:01
DRB1*04:03:01G	20(2)		DRB4*01:01:01G	20(1)	DQA1*01:01	86(6)	DQB1*03:02:01G	11(1)	DPA1*02:02	80(4)	DPB1*05:01	89(8)
DRB1*04:03	60(6)		DRB4*01:03	60(3)	DQA1*01	100(6)	DQB1*03:02	78(7)	DPA1*02	100(4)	DPB1*05	100(5)
DRB1*04:06	10(1)		DRB4*01	75(3)			DQB1*03	100(7)				
DRB1*04	88(7)		DRB4*PRESENT	25(1)								
DRB1*15	12(1)											
<u>10 labs High; 8 labs low-DRB1</u>	%(n)	<u>5 labs High; 4 lab low-DRB3/4/5</u>	%(n)	<u>8 labs High; 6 labs Low-DQA1</u>	%(n)	<u>9 labs High; 7 labs Low-DQB1</u>	%(n)	<u>5 labs High; 4 labs Low-DPA1</u>	%(n)	<u>9 labs High; 5 labs Low-DPB1</u>	%(n)	
DRB1*15:02:01	10(1)	DRB5*01:02	100(5)	DQA1*03:01:01	12(1)	DQB1*05:01:24	11(1)			DPB1*135:01	78(7)	
DRB1*15:02:01G	20(2)	DRB5*01	75(3)	DQA1*03:01	88(7)	DQB1*05:01	89(8)			DPB1*05:01	22(2)	
DRB1*15:02	70(7)	DRB5*PRESENT	25(1)	DQA1*03	100(6)	DQB1*05	100(7)			DPB1*05	100(5)	
DRB1*15	100(8)											

**Table 10: Summary of the 423<sup>rd</sup> Cell Exchange - DNA Typing**

**Cell 1692**

DNA Typing - class I		<u>11 labs High; 13 labs low- A</u>		<u>12 labs High; 13 labs low- B</u>		<u>12 labs High; 11 labs low- C</u>												
			%(n)		%(n)		%(n)											
	A*02:07:01:01	9	(1)	B*15:01:01:01	8	(1)	C*01:02:01:08	8	(1)									
	A*02:07:01G	9	(1)	B*15:01:01G	17	(2)	C*01:02:01G	8	(1)									
	A*02:07	73	(8)	B*15:01	75	(9)	C*01:02	83	(10)									
	A*02:01	9	(1)	B*15	92	(12)	C*01	100	(11)									
	A*02	100	(13)	B*15(B70)	8	(1)												
DNA Typing - class II		<u>10 labs High; 8 labs low-DRB1</u>		<u>5 labs High; 3 labs low-DRB3/4/5</u>		<u>7 labs High; 6 labs Low-DQA1</u>		<u>9 labs High; 7 labs Low-DQB1</u>		<u>5 labs High; 3 labs Low-DPA1</u>		<u>9 labs High; 4 labs Low-DPB1</u>						
			%(n)		%(n)		%(n)		%(n)		%(n)		%(n)					
	DRB1*04:06:01	10	(1)	DRB4*01:03:01	20	(1)	DQA1*03:01:01	14	(1)	DQB1*03:02:01	11	(1)	DPA1*02:02:02	20	(1)	DPB1*05:01:01	11	(1)
	DRB1*04:06	90	(9)	DRB4*01:03:01G	20	(1)	DQA1*03:01	86	(6)	DQB1*03:02:01G	11	(1)	DPA1*02:02	80	(4)	DPB1*05:01:01G	11	(1)
	DRB1*04	100	(8)	DRB4*01:03	60	(3)	DQA1*03	100	(6)	DQB1*03:02	78	(7)	DPA1*02	100	(3)	DPB1*05:01	78	(7)
				DRB4*01	67	(2)				DQB1*03	100	(7)				DPB1*05	100	(4)
				DRB4*PRESENT	33	(1)												
DNA Typing - class II		<u>10 labs High; 8 labs low-DRB1</u>				<u>7 labs High-DQA1</u>		<u>9 labs High-DQB1</u>		<u>4 labs High; 4 labs Low-DPA1</u>		<u>9 labs High; 4 labs Low-DPB1</u>						
			%(n)		%(n)		%(n)		%(n)		%(n)		%(n)					
	DRB1*09:01:02	10	(1)			DQA1*03:02:01	14	(1)	DQB1*03:03:02	22	(2)	DPA1*04:01:01	25	(1)	DPB1*13:01:01G	11	(1)	
	DRB1*09:01:02G	20	(2)			DQA1*03:02	86	(6)	DQB1*03:03	78	(7)	DPA1*04:01	75	(3)	DPB1*13:01	56	(5)	
	DRB1*09:01	70	(7)								DPA1*04	100	(4)	DPB1*107:01	33	(3)		
	DRB1*09	100	(8)										DPB1*13	75	(3)			
													DPB1*107	12	(1)			

**Table 11. Individual laboratory results for Cell #1689 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*68	*15	*49	*07	*14	*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	SSP SSO	
725	*02	*68	*15	*49	*07	*14							SSO	
731	*02	*68	*15	*49			*02:01:01	*68:02:01	*15:16:01	*49:01:01	*07:01:01	*14:02:01	SSP NGS RT-PCR	
747	*02	*68	*15	*49	*07	*14	*02:01:01	*68:02:01	*15:16:01	*49:01:01	*07:01:01	*14:02:01	SSP SSO NGS	
762							*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	NGS	
771	*02	*68	*15	*49	*07	*14	*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	SSO NGS	
774	*02	*68	*15	*49	*07	*14			*15:16					B*15:67 B*15:95 B*15:254
3545	*02	*68	*15	*49	*07	*14	*02:01:01G	*68:02:01G	*15:16	*49:01:01G	*07:01:01G	*14:02:01G	SSO SBT	
3808	*02	*68	*15	*49	*07	*14		*68:02	*15:16	*49:01		*14:02	SSO	
4079	*02	*68	*15	*49	*07	*14	*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	SSP NGS	
4251							*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	NGS	
5133							*02:01:01:01	*68:02:01:01	*15:16:01:01	*49:01:01:01	*07:01:01:16	*14:02:01:02	NGS	
5462	*02	*68	*15	*49	*07	*14	*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	SSO NGS	
5642	*02	*68	*15	*49	*07	*14							SSP	
6649	*02	*68	*15	*49									SSO	
8001							*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	NGS	
8043	*02	*68	*15	*49	*07	*14	*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	SSP SSO	
8058	*02	*69	*40	*49	*02								SSP OTHER	
8103	*02	*68	*15	*49	*07	*14	*02:01	*68:02	*15:16	*49:01	*07:01	*14:02	SSO	

**Table 12a: Individual laboratory results for Cell #1689 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04	*07					*02	*03					SSP NGS RT-PCR	
747	*04	*07	4*01	4*01	*02	*03	*02	*03	*01	*02	*04	*13	SSP SSO NGS	
771	*04	*07			*02	*03	*02	*03			*04	*13	SSO NGS	
774	*04	*07	4*01		*02	*03	*02	*03			*04(DP401)	*13		
3545	*04	*07											SSO SBT	
3808	*04	*07	NT	NT	*02	*03	*02	*03	*01	*02	*04(DP401)	*13	SSO	
4079	*04	*07			*02	*03	*02	*03					SSP NGS	
5462	*04	*07	4*01		*02	*03	*02	*03	*01	*02	NT	NT	SSO NGS	
8058	*04	*07	4*PRESENT	4*PRESENT			*02	*03					SSP OTHER	
8103	*04	*07			*02	*03	*02	*03	*01	*02	*04	*13	SSO	

**Table 12b: Individual laboratory results for Cell #1689 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	04:05:01	*07:01:01			*02:01:01	*03:03:01	*02:02	*03:02			*133:01	*350:01	SSP NGS RT-PCR	DQB1*02:156 DQB1*03:289 DQB1*03:416 DRB1*07:79 DRB1*07:93
747	04:05:01	*07:01:01	4*01:03:01	4*01:03:01	*02:01:01	*03:03:01	*02:02	*03:02	*01:03:01	*02:01:01	*04:01:01	*13:01:01	SSP SSO NGS	DQB1*03:416 DQB1*02:156 DQB1*03:289
771	04:05	*07:01					*02:02	*03:02			*04:01	*13:01	SSO NGS	
774	04:05	*07:01	4*01:03		*02:01	*03:03	*02:02	*03:02			*04:01	*13:01		DRB4*01:09 DRB1*04:90 DRB4*01:10 DRB1*04:104 DRB1*04:116 DRB1*04:178N DRB1*07:31 DRB1*07:33 DRB1*07:35
3545	04:05	*07:01:01G											SSO SBT	
3808	04:05				*02:01		*02:02	*03:02	*01:03	*02:01	*04:01	*13:01	SSO	
4079	04:05	*07:01	4*01:03		*02:01	*03:03	*02:02	*03:02	*01:03	*02:01	*04:01	*13:01	SSP NGS	
4251	04:05	*07:01:01G	4*01:01:01G	4*01:03	*02:01	*03:03	*02:01:01G	*03:02:01G	*01:03:01G	*02:01	*04:01	*13:01:01G	NGS	
5133	04:05:01	*07:01:01	4*01:03:01		*02:01:01	*03:03:01	*02:02:01	*03:02:01	*01:03:01	*02:01:01	*04:01:01	*13:01:01	NGS	DPB1*350:01 DPB1*133:01
5462	04:05	*07:01	4*01:03		*02:01	*03:03	*02:02	*03:02	*01:03	*02:01	*04:01P	*13:01P	SSO NGS	DPB1*350:01 DPB1*133:01

**Table 12b: Individual laboratory results for Cell #1689 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
8001	04:05	*07:01	4*01:03		*02:01	*03:03	*02:02	*03:02			*04:01	*13:01	NGS	DPB1*939:01 DPB1*133:01 DPB1*350:01
8103	04:05	*07:01			*02:01	*03:02	*02:02	*03:02	*01:03	*02:01	*04:01	*13:01	SSO	DQA1*03:03 DRB1*07:05 DRB1*07:07 DRB1*07:11 DRB1*07:13



**Table 13. Individual laboratory results for Cell #1690 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*03	*35	*57	*04	*07	*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	SSP SSO	
725	*02	*03	*35	*57	*04	*07							SSO	
731	*02	*03	*35	*57	*04	*07	*02:01	*03:01	*35:03:01	*57:03:01	*04:01	*07:01	SSP NGS RT-PCR	DQB1*06:280
747	*02	*03	*35	*57	*04	*07	*02:01:01	*03:01:01	*35:03:01	*57:03:01	*04:01:01	*07:01:02	SSP SSO NGS	
762							*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	NGS	
771	*02	*03	*35	*57	*04	*07	*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	SSO NGS	
774	*02	*03	*35	*57	*04	*07				*57:03				B*57:70 B*57:66 B*57:17 B*57:46
3545	*02	*03	*35	*57	*04	*07	*02:01:01G	*03:01:01G	*35:03:01G	*57:03	*04:01:01G	*07:01:01G	SSO SBT	
3808	*02	*03	*35	*57	*04	*07			*35:03	*57:03	*04:01:01G	*07:01:01G	SSO	
4079	*02	*03	*35	*57	*04	*07	*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	SSP NGS	
4251							*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	NGS	
5133							*02:01:01:01	*03:01:01:26	*35:03:01:03	*57:03:01:02	*04:01:01:14	*07:01:02:01	NGS	
5462	*02	*03	*35	*57	*04	*07	*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	SSO NGS	
5642	*02	*03	*35	*57	*04	*07							SSP	
6649	*02	*03	*35	*57									SSO	
8001							*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	NGS	
8043	*02	*03	*35	*57	*04	*07	*02:01	*03:01	*35:03	*57:03	*04:01:01G	*07:01	SSP SSO	
8058	*02	*74	*35	*58	*02								SSP OTHER	
8103	*02	*03	*35	*57	*04	*07	*02:01	*03:01	*35:03	*57:03	*04:01	*07:01	SSO	B*35:55 C*07:06 C*07:18 C*04:09N C*04:82

**Table 14a: Individual laboratory results for Cell #1690 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*13	*13	3*03	NP	*01	*01	*06	*06	*01	*01	*04	*04	SSP NGS	
747	*13	*13	3*03	3*03	*01	*01	*06	*06	*01	*01	*04	*04	RT-PCR	
771	*13				*01		*06				*04		SSP SSO NGS	
774	*13		3*03		*01		*06				*04(DP401)		SSO NGS	
3545	*13												SSO SBT	
3808	*13	*13	NT	NT	*01	*01	*06	*06	*01	*01	*04(DP401)	*04(DP401)	SSO	
4079	*13						*06						SSP NGS	
5462	*13		3*03		*01		*06		*01		NT		SSO NGS	
8058	*03	*11	3*PRESENT	3*PRESENT			*06	*06					SSP OTHER	
8103	*13	*13			*01	*01	*06	*06	*01	*01	*04	*04	SSO	

**Table 14b: Individual laboratory results for Cell #1690 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*13:02	*13:02			*01:02	*01:02	*06:04	*06:04			*04:01	*04:01	SSP NGS	
747	*13:02:01	*13:02:01	3*03:01:01	3*03:01:01	*01:02:01	*01:02:01	*06:04:01	*06:04:01	*01:05	*01:05	*04:01:01	*04:01:01	RT-PCR	DQB1*06:280
771	*13:02						*06:04				*04:01		SSP SSO NGS	
														DRB1*13:147 DRB1*13:155 DRB1*13:165 DRB1*13:168 DRB1*13:171 DQB1*06:186 DRB1*13:140 DRB1*13:142N DRB1*13:74 DRB1*13:114 DRB1*13:143 DRB1*13:145
774	*13:02		3*03:01		*01:02		*06:04				*04:01			
3545	*13:02												SSO SBT	
3808	*13:02	*13:02			*01:02	*01:02	*06:04	*06:04	*01:03	*01:03	*04:01	*04:01	SSO	
4079	*13:02		3*03:01		*01:02		*06:04		*01:05		*04:01		SSP NGS	
4251	*13:02	*13:02	3*03:01:01G	3*03:01	*01:02	*01:02	*06:04:01G	*06:04:01G	*01:05	*01:05	*04:01	*04:01	NGS	
5133	*13:02:01		3*03:01:01		*01:02:01		*06:04:01		*01:05		*04:01:01		NGS	
5462	*13:02		3*03:01		*01:02		*06:04		*01:05		*04:01		SSO NGS	
8001	*13:02		3*03:01		*01:02		*06:04				*04:01		NGS	DPB1*939:01
8103	*13:02	*13:39			*01:02	*01:02	*06:04	*06:04	*01:03	*01:03	*04:01	*04:01	SSO	

**Table 15. Individual laboratory results for Cell #1691 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*11	*15	*40	*04	*07	*02:06	*11:01	*15:35	*40:01	*04:01	*07:02	SSP SSO	
725	*02	*11	*15	*40	*04	*07							SSO	
731	*02	*11	*15	*40	*04	*07	*02:06	*11:01	*15:35	*40:01	*04:82	*07:02	SSP NGS RT-PCR	
747	NT												SSP SSO NGS	
762							*02:06	*11:01	*15:35	*40:01	*04:82	*07:02	NGS	
771	*02	*11	*15	*40	*04	*07	*02:06	*11:01	*15:35	*40:01	*04:82	*07:02	SSO NGS	
774	*02	*11	*15	*40	*04	*07								
3545	*02	*11	*15	*40	*04	*07	*02:06:01G	*11:01:01G	*15:35	*40:01:01G	*04:01:01G	*07:02:01G	SSO SBT	
3808	*02	*11	*15	*40	*04	*07	*02:06		*15:01:01G	*40:01:01G	*04:01:01G	*07:02:01G	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251							*02:06	*11:01	*15:35	*40:01	*04:82	*07:02	NGS	
5133							*02:06:01:01	*11:01:01:01	*15:35	*40:01:02:04	*04:82	*07:02:01:01	NGS	
5462	*02	*11	*15	*40	*04	*07	*02:06	*11:01	*15:35	*40:01	*04:82	*07:02	SSO NGS	
5642	*02	*11	*15	*40	*04	*07							SSP	
6649	*02	*11	*15	*40									SSO	
8001							*02:06	*11:01	*15:35	*40:01	*04:82	*07:02	NGS	
8043	*02	*11	*15	*40	*04	*07	*02:06	*11:01	*15:35	*40:01	*04:01:01G	*07:02	SSP SSO	
8058	*02	*11	*15(B70)	*40	*02								SSP OTHER	A*24
8103	*02	*11	*15	*40	*04	*07	*02:06	*11:01	*15:01	*40:01	*04:01	*07:02	SSO	A*02:10 A*02:21 C*04:09N C*04:82

**Table 16a: Individual laboratory results for Cell #1691 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04	*15	4*01	5*01	*01	*03	*03	*05	*02	*02	*05	*05	SSP NGS RT-PCR	
747	NT												SSP SSO NGS	
771	*04	*15			*01	*03	*03	*05			*05	*05	SSO NGS	
774	*04	*15	4*01	5*01	*01	*03	*03	*05			*05			
3545	*04	*15											SSO SBT	
3808	*04	*15	NT	NT	*01	*03	*03	*05	*02	*02	*05	*05	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
5462	*04	*15	4*01	5*01	*01	*03	*03	*05	*02		NT	NT	SSO NGS	
8058	*15	*15	4*PRESENT	5*PRESENT			*03	*05					SSP OTHER	
8103	*04	*15			*01	*03	*03	*05	*02	*02	*05	*05	SSO	

**Table 16b: Individual laboratory results for Cell #1691- Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04:06	*15:02			*01:01	*03:01	*03:02	*05:01			*05:01	*135:01	SSP NGS RT-PCR	DRB1*15:140 DRB1*15:149 DQB1*03:289 DQB1*03:416
747	NT												SSP SSO NGS	
771	*04:03	*15:02					*03:02	*05:01			*05:01	*135:01	SSO NGS	
774	*04:03	*15:02	4*01:03	5*01:02	*01:01	*03:01	*03:02	*05:01			*05:01	*135:01		DRB1*04:93 DRB1*04:96 DRB1*04:109 DRB1*04:142N DRB1*04:148 DRB1*04:163 DRB1*04:165>
3545	*04:03:01G	*15:02:01G											SSO SBT	
3808	*04:03	*15:02				*03:01	*03:02	*05:01	*02:02	*02:02	*05:01	*05:01	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251	*04:03:01G	*15:02:01G	4*01:01:01G	5*01:02	*01:01	*03:01	*03:02:01G	*05:01	*02:02	*02:02	*05:01	*135:01	NGS	
5133	*04:03:01	*15:02:01	4*01:03:01	5*01:02	*01:01:01	*03:01:01	*03:02:01	*05:01:24	*02:02:02		*05:01:01	*135:01	NGS	
5462	*04:03	*15:02	4*01:03	5*01:02	*01:01	*03:01	*03:02	*05:01	*02:02		*05:01	*135:01	SSO NGS	
8001	*04:03	*15:02	4*01:03	5*01:02	*01:01	*03:01	*03:02	*05:01			*05:01	*135:01	NGS	
8103	*04:03	*15:02			*01:01	*03:01	*03:02	*05:01	*02:02	*02:02	*05:01	*05:01	SSO	DRB1*04:50 DRB1*04:51 DRB1*15:14 DQA1*01:04 DQA1*01:05

**Table 17. Individual laboratory results for Cell #1692 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*24	*15	*40	*01	*08	*02:07	*24:02	*15:01	*40:06	*01:02	*08:01	SSP SSO	
725	*02	*24	*15	*40	*01	*08							SSO	
731	*02	*24	*15	*40			*02:07	*24:02:01	*15:01	*40:06	*01:02	*08:01	SSP NGS RT-PCR	
747	NT												SSP SSO NGS	
762							*02:07	*24:02	*15:01	*40:06	*01:02	*08:01	NGS	
771	*02	*24	*15	*40	*01	*08	*02:07	*24:02	*15:01	*40:06	*01:02	*08:01	SSO NGS	
774	*02	*24	*15	*40	*01	*08								
3545	*02	*24	*15	*40	*01	*08	*02:07:01G	*24:02:01G	*15:01:01G	*40:06:01G	*01:02:01G	*08:01:01G	SSO SBT	
3808	*02	*24	*15	*40	*01	*08			*15:01:01G	*40:06	*01:02	*08:01	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251							*02:07	*24:02	*15:01	*40:06	*01:02	*08:01	NGS	
5133							*02:07:01:01	*24:02:01:01	*15:01:01:01	*40:06:01	*01:02:01:08	*08:01:01:01	NGS	
5462	*02	*24	*15	*40	*01	*08	*02:07	*24:02	*15:01	*40:06	*01:02	*08:01	SSO NGS	
5642	*02	*24	*15	*40	*01	*08							SSP	
6649	*02	*24	*15	*40									SSO	
8001							*02:07	*24:02	*15:01	*40:06	*01:02	*08:01	NGS	
8043	*02	*24	*15	*40	*01	*08	*02:07	*24:02	*15:01	*40:06	*01:02	*08:01	SSP SSO	
8058	*02	*24	*15(B70)	*40	*01								SSP OTHER	
8103	*02	*24	*15	*40	*01	*08	*02:01	*24:02	*15:01	*40:06	*01:02	*08:01	SSO	A*02:07 A*02:09 A*02:17 A*02:58 C*08:22

**Table 18a: Individual laboratory results for Cell #1692 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04	*09				*03	*03						SSP NGS	
747	NT												RT-PCR	
771	*04	*09			*03		*03	*03			*05	*13	SSP SSO NGS	
774	*04	*09	4*01		*03	*03	*03	*03			*05	*107	SSO NGS	
3545	*04	*09											SSO SBT	
3808	*04	*09	NT	NT	*03	*03	*03	*03	*02	*04	*05	*13	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
5462	*04	*09	4*01	4*01	*03	*03	*03	*03	*02	*04	NT	NT	SSO NGS	
8058	*04	*09	4*PRESENT	4*PRESENT			*03			*04			SSP OTHER	
8103	*04	*09			*03	*03	*03	*03	*02	*04	*05	*13	SSO	

**Table 18b: Individual laboratory results for Cell #1692- Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04:06	*09:01			*03:01	*03:02	*03:02	*03:03:02			*05:01	*13:01	SSP NGS	DPB1*135:01
747	NT												RT-PCR	DPB1*519:01
771	*04:06	*09:01					*03:02	*03:03			*05:01	*13:01	SSP SSO NGS	DQB1*03:289
774	*04:06	*09:01	4*01:03		*03:01	*03:02	*03:02	*03:03			*05:01	*107:01	SSO NGS	DQB1*03:416
3545	*04:06	*09:01:02G											SSO SBT	DRB1*09:31
3808	*04:06	*09:01					*03:02	*03:03	*02:02		*05:01	*13:01	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251	*04:06	*09:01:02G	4*01:01:01G	4*01:03	*03:01	*03:02	*03:02:01G	*03:03	*02:02	*04:01	*05:01:01G	*13:01:01G	NGS	
5133	04:06:01	*09:01:02	4*01:03:01	4*01:03:02	*03:01:01	*03:02:01	*03:02:01	*03:03:02	*02:02:02	*04:01:01	*05:01:01	*107:01	NGS	
5462	*04:06	*09:01	4*01:03	4*01:03	*03:01	*03:02	*03:02	*03:03	*02:02	*04:01	*05:01	*107:01	SSO NGS	
8001	*04:06	*09:01	4*01:03		*03:01	*03:02	*03:02	*03:03			*05:01	*13:01	NGS	DPB1*135:01
														DPB1*519:01
8103	*04:06	*09:01			*03:01	*03:02	*03:02	*03:03	*02:02	*04:01	*05:01	*13:01	SSO	DQA1*03:03
														DRB1*04:41
														DRB1*09:04
														DQA1*03:02