

# REPORT OF THE 421<sup>st</sup> CELL EXCHANGE

## MARCH 24, 2021

B-cell Line	583 - 584
Cells	1681 - 1684

### B-CELL LINE EXCHANGE #292

The results for B-cell Line Exchange #292 are summarized in Tables 1 - 2 and individual laboratory results reported for each sample are listed in Tables 3 - 6. We would like to express our gratitude to **Welsh Blood Service, Pontyclun**, for providing the A\*25:02 reference cell examined in this study.

We would like to also acknowledge and thank the labs performing NGS

for sharing their results and encourage other NGS labs to share their findings. Haplotype frequencies used in this report are from the NMDP Bioinformatics website, <https://bioinformatics.bethematchclinical.org/>.

---

**Ter-583.** The reported consensus type for this sample from a Caucasian donor is DRB1\*03:01-DRB1\*04:01-DRB3\*01:01-DRB4\*01:03-DQA1\*03:03-DQA1\*05:01-DQB1\*02:01-DQB1\*03:01-DPA1\*01:03-DPB1\*04:01-A\*02:01-A\*25:02-B\*08:01-B\*44:02-C\*05:01-C\*07:01. Likely associations present in this cell are C\*05:01-B\*44:02-DRB1\*04:01-DQB1\*03:01 and C\*07:01-B\*08:01-DRB1\*03:01-DQB1\*02:01. Each are commonly observed in Caucasians, with respective HF = 0.03026 and 0.09821.

This cell is TW, the reference cell for A\*25:02. It was previously examined in the class I DNA Extract Exchange as Extracts 455 (2009) and 253 (2003). In this present retyping, A\*25:02 was assigned in complete consensus by labs reporting at high resolution. Good agreement ( $\geq 90\%$ ) was also achieved for all class I and class II allele assignments.

**Ter-584.** The reported consensus type for this sample from an Asian Indian donor is DRB1\*13:08-DRB1\*15:02-DRB3\*02:02-DRB5\*01:02-DQA1\*01:03-DQA1\*01:04-DQB1\*05:03-DQB1\*06:01-DPA1\*01:03-DPB1\*04:01-A\*03:01-A\*31:01-B\*15:18-B\*35:03-C\*04:01-C\*07:04. One possible association present in this cell is C\*04:01-B\*35:03-DRB1\*15:02-DQB1\*05:03, observed in Asians, with HF = 0.00044. The other association present may then be C\*07:04-B\*15:18-DRB1\*13:08-DQB1\*06:01. B\*15:18-C\*07:04 is observed in Asian populations, with HF = 0.00455.

This cell is THA. It was examined in the workshops as IHW#9327 and is a reference cell for B\*15:18:01:02, B\*35:03:01:01, DQA1\*01:04:01:03, DRB1\*13:08, DRB1\*15:02:02:01, and DRB5\*01:02:01. This cell was also typed previously in the Cell Exchange as Ter 425 (2009), Ter 332 (2004), and Extract 516 (2011). In this present retyping, good agreement ( $\geq 90\%$ ) was achieved for all class I and class II allele assignments.

**Table 1: Summary of the 292<sup>nd</sup> B-cell Line Exchange**

**Ter-583**

Ter-583																			
<b>DNA Typing - class II</b>	<b>26 labs High; 21 labs low-DRB1</b>		<b>%(n)</b>	<b>19 labs High; 16 labs Low-DRB3/4/5</b>		<b>%(n)</b>	<b>21 labs High; 20 labs Low-DQA1</b>		<b>%(n)</b>	<b>25 labs High; 20 labs Low-DQB1</b>		<b>%(n)</b>	<b>15 labs High; 10 labs Low-DPA1</b>		<b>%(n)</b>	<b>25 labs High; 12 labs Low-DPB1</b>		<b>%(n)</b>	
	DRB1*03:01:01		23(6)	DRB3*01:01:02		21(4)	DQA1*03:03:01		14(3)	DQB1*02:01:01		24(6)	DPA1*01:03:01		20(3)	DPB1*04:01:01		28(7)	
	DRB1*03:01:01G		4 (1)	DRB3*01:01		79(15)	DQA1*03:03		81(17)	DQB1*02:01		76(19)	DPA1*01:03:01G		7 (1)	DPB1*04:01:01G		4 (1)	
	DRB1*03:01P		8 (2)	DRB3*01		88(14)	DQA1*03:02		5 (1)	DQB1*02		100(20)	DPA1*01:03		73(11)	DPB1*04:01P		4 (1)	
	DRB1*03:01		65(17)	DRB3*PRESENT		12(2)	DQA1*03		100(20)				DPA1*01		100(10)	DPB1*04:01		64(16)	
	DRB1*03(DR17)		4 (1)													DPB1*04(DP401)		42(5)	
	DRB1*03		96(20)													DPB1*04		58(7)	
	<b>DNA Typing - class I</b>	<b>20 labs High; 19 labs low- A</b>		<b>%(n)</b>	<b>20 labs High; 19 labs low- B</b>		<b>%(n)</b>	<b>20 labs High; 19 labs low- C</b>		<b>%(n)</b>									
A*02:01:01:01			5 (1)	B*08:01:01:01		5 (1)	C*05:01:01:02		5 (1)										
A*02:01:01			25(5)	B*08:01:01		25(5)	C*05:01:01		25(5)										
A*02:01P			5 (1)	B*08:01P		5 (1)	C*05:01P		5 (1)										
A*02:01			65(13)	B*08:01		65(13)	C*05:01		65(13)										
A*02			100(19)	B*08		100(19)	C*05		100(19)										

Table 2: Summary of the 292<sup>nd</sup> B-cell Line Exchange

Ter-584

		25 labs High; 21 labs low-DRB1		18 labs High; 16 labs Low-DRB3/4/5		21 labs High; 20 labs Low-DQA1		25 labs High; 20 labs Low-DQB1		15 labs High; 10 labs Low-DPA1		25 labs High; 12 labs Low-DPB1			
DNA Typing - class II			%(n)			%(n)			%(n)			%(n)			
		DRB1*13:08	100(25)		DRB3*02:02:01	22(4)		DQA1*01:03:01	14(3)		DQB1*05:03:01	24(6)		DPB1*04:01:01	28(7)
		DRB1*13	100(21)		DRB3*02:02	78(14)		DQA1*01:03	86(18)		DQB1*05:03P	4 (1)		DPB1*04:01:01G	4 (1)
					DRB3*02	88(14)		DQA1*01	100(20)		DQB1*05:03	72(18)		DPB1*04:01P	4 (1)
					DRB3*PRESENT	12(2)					DQB1*05	100(20)		DPB1*04:01	64(16)
													DPB1*04(DP401)	42(5)	
													DPB1*04	58(7)	
DNA Typing - class I			%(n)			%(n)			%(n)			%(n)			
		A*03:01:01:01	5 (1)		B*15:18:01:02	4 (1)		C*04:01:01:14	5 (1)						
		A*03:01:01	25(5)		B*15:18:01	27(6)		C*04:01:01	25(5)						
		A*03:01P	5 (1)		B*15:18	64(14)		C*04:01:01G	5 (1)						
		A*03:01	65(13)		<i>B*15:10</i>	5 (1)		C*04:01	65(13)						
	A*03	100(19)		B*15(B71)	5 (1)		C*04	100(19)							
				B*15	95(18)										
DNA Typing - class I			%(n)			%(n)			%(n)			%(n)			
		A*31:01:02:01	5 (1)		B*35:03:01:01	5 (1)		C*07:04:01:01	5 (1)						
		A*31:01:02	25(5)		B*35:03:01	25(5)		C*07:04:01	25(5)						
		A*31:01P	5 (1)		B*35:03P	5 (1)		C*07:04P	5 (1)						
		A*31:01	65(13)		B*35:03	65(13)		C*07:04	65(13)						
	A*31	100(19)		B*35	100(19)		C*07	100(19)							

**Table 3a: Individual laboratory results for B-cell #583 - Class II**

Center	Low resolution												METHOD	Other Alleles
	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1			
278	*03	*04	3*01	4*01	*03	*05	*02	*03	*01	*01	*04	*04	SSP SSO	
725	*03	*04	3*PRESENT	4*PRESENT	*03	*05	*02	*03					SSP SSO	
747	*03	*04	3*01	4*01	*03	*05	*02	*03	*01	*01	*04	*04	SSP SSO NGS	
774	*03	*04	3*01	4*01	*03	*05	*02	*03			*04(DP401)		SSP SSO	
792	*03	*04	3*01	4*01	*03	*05	*02	*03	*01	*01	*04	*04	SSO NGS	
793	*03	*04	3*PRESENT	4*PRESENT	*03	*05	*02	*03			*04			
794	*03	*04	3*01	4*01	*03	*05	*02	*03	*01		*04		SSP SSO NGS RT-PCR	
2400	*03	*04	3*01	4*01	*03	*05	*02	*03			*04		SSO NGS	
2847	*03	*04											SSO	
3519	*03	*04	3*01	4*01	*03	*05	*02	*03	*01		*04(DP401)		SSP NGS RT-PCR	
3753			3*01	4*01	*03	*05			*01	*01			SSO SBT	
3966													SSP	
4079	*03	*04	3*01	4*01	*03	*05	*02	*03	*01	*01	*04(DP401)	*04(DP401)	SSP SSO	
5130	*03	*04	3*01	4*01	*03	*05	*02	*03			*04	*04	SSO NGS	
5214	*03(DR17)	*04	3*01	4*01	*03	*05	*02	*03(DQ7)	*01		*04(DP401)			
5219	*03	*04			*03	*05	*02	*03					SSO NGS	
5451	*03	*04	3*01	4*01	*03	*05	*02	*03					SSO SBT	
5462	*03	*04	3*01	4*01	*03	*05	*02	*03	*01		NT	NT	RT-PCR	
6649	*03	*04					*02	*03					SSO	
8029	*03	*04			*03	*05	*02	*03					SSO	
8043	*03	*04			*03	*05	*02	*03					SSP SSO	
8068	*03	*04			*03	*05	*02	*03					SSO	
8123	*03	*04	3*01	4*01	*03	*05	*02	*03	*01	*01	*04(DP401)	*04(DP401)	RT-PCR	

**Table 3b: Individual laboratory results for B-cell #583 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03	*01:03	*04:01	*04:01	SSO NGS	
278	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03	*01:03	*04:01	*04:01	SSP SSO	
747	*03:01:01	*04:01:01	3*01:01:02	4*01:03:01	*03:03:01	*05:01:01	*02:01:01	*03:01	*01:03:01	*01:03:01	*04:01:01	*04:01:01	SSP SSO NGS	DQB1*03:276N DQB1*02:163N
762	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03		*04:01		NGS	
774	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01			*04:01		SSP SSO	DQB1*03:73 DRB1*04:111 DRB1*04:112 DRB1*03:112 DRB1*04:155 DRB1*04:171 DRB1*04:175 DQB1*03:92 DRB1*03:47 DRB1*03:56 DRB1*03:58 DRB1*03:61 DRB1*03:62 DRB1*03:66 DRB1*03:68N DRB1*03:72 DRB1*03:73 DRB1*03:83 DRB1*03:93 DRB1*03:100 DRB1*03:104 DRB1*04:119N DRB1*04:130 DRB1*04:135
792	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03	*01:03	*04:01	*04:01	SSO NGS	DRB1*03:147
793					*03:03	*05:01					*04:01			
794	*03:01:01	*04:01:01	3*01:01:02	4*01:03:01	*03:03	*05:01	*02:01:01	*03:01:01	NT	NT	*04:01:01		SSP SSO NGS RT-PCR	DQA1*03:08/09/11, DQA1*05:18/19, DQB1*03:01:41
2344	*03:01:01	*04:01:01	NT	NT	NT	NT	*02:01:01	*03:01:01	NT	NT	*04:01:01	*04:01:01	NGS	DRB1*03:147
2400	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01			*04:01P		SSO NGS	DQB1*02:163N DQB1*03:276N
3135	*03:01P	*04:01	3*01:01	4*01:03	*03:02	*05:01	*02:01	*03:01P	*01:03		*04:01:01			DQA1*03:03
3224	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03		*04:01		NGS	
3511	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03	*01:03	*04:01	*04:01	SSP SSO	
3519	*03:01P	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01P	*01:03		*04:01		SSP NGS RT-PCR	DRB1*03:147
3753	*03:01	*04:01					*02:01	*03:01			*04:01	*04:01	SSO SBT	DQB1*03:29 DQB1*03:256 DQB1*03:264 DQB1*03:276N DQB1*03:292 DPB1*939:01 DQB1*03:350 DQB1*03:389 DRB1*04:274 DQB1*03:293 DQB1*03:294 DQB1*03:297 DQB1*03:326 DQB1*03:342 DRB1*03:147 DQB1*03:426 DQB1*03:430 DQB1*03:431 DQB1*02:109 DQB1*02:112 DQB1*02:139 DQB1*03:449
3966	*03:01	*04:01	3*01:01	4*01:03			*02:01	*03:01					SSP	
4337	*03:01	*04:01					*02:01	*03:01			*04:01	*04:01	SSP SBT NGS	
5130	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01			*04:01	*04:01	SSO NGS	DRB1*03:147
5133	*03:01:01	*04:01:01	3*01:01:02	4*01:03:01	*03:03:01	*05:01:01	*02:01:01	*03:01:01	*01:03:01		*04:01:01		NGS	

**Table 3b: Individual laboratory results for B-cell #583 - Class II**

High resolution															
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles	
5214												*04:01G			
5219	*03:01:01	*04:01:01					*02:01:01	*03:01:01				*04:01:01	*04:01:01	SSO NGS	
5451	*03:01:01	*04:01:01												SSO SBT	
5488	*03:01:01G	*04:01:01	3*01:01:02	4*01:03:01	*03:03:01	*05:01:01	*02:01:01	*03:01:01G	*01:03:01			*04:01:01		SSO NGS	
8021	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03			*04:01		SSO NGS	
8043	*03:01	*04:01			*03:03	*05:01	*02:01	*03:01						SSP SSO	
8086	*03:01	*04:01			*03:03	*05:01	*02:01	*03:01	*01:03:01G	*01:03:01G		*04:01	*04:01	SBT	
8122	*03:01	*04:01	3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03			*04:01		NGS	DPB1*939:01
8123	*03:01		3*01:01	4*01:03	*03:03	*05:01	*02:01	*03:01	*01:03	*01:03		*04:01	*04:01	RT-PCR	DQB1*03:09 DQB1*03:19

**Table 4: Individual laboratory results for B-cell #583- Class I**

Low resolution							High resolution						METHOD	Other Alleles
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
230							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSO NGS	
278	*02	*25	*08	*44	*05	*07	*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSP SSO	
725	*02	*25	*08	*44	*05	*07							SSP SSO	
747	*02	*25	*08	*44	*05	*07	*02:01:01	*25:02	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSP SSO NGS	
774	*02	*25	*08	*44	*05	*07							SSP SSO	
792	*02	*25	*08	*44	*05	*07	*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSO NGS	A*02:01:01:02L
793	*02	*25	*08	*44	*05	*07								
794	*02	*25	*08	*44	*05	*07	*02:01:01	*25:02	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSP SSO NGS RT-PCR	
2344							*02:01:01	*25:02	*08:01:01	*44:02:01	*05:01:01	*07:01:01	NGS	
2400	*02	*25	*08	*44	*05	*07	*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSO NGS	
2847	*02	*25	*08	*44	*05	*07							SSO	
3135							*02:01P	*25:02	*08:01P	*44:02P	*05:01P	*07:01P		
3224							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	NGS	
3511							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSP SSO	
3519	*02	*25	*08	*44	*05	*07	*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSP NGS RT-PCR	
3753							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSO SBT	A*02:786 A*02:844 B*44:292 B*44:321 B*44:457 C*07:732 C*07:762 C*07:777 C*07:814 C*07:848 C*07:877 A*02:35 A*02:716 A*02:846 A*02:864 A*02:869 A*02:870 A*25:01 A*25:11 A*02:34 B*44:464 B*44:470 B*44:477 B*44:478 B*44:479 C*07:343 C*07:591 C*07:610 C*07:619 C*07:657 C*07:682 C*07:696 A*02:917 A*25:68
3966	*02	*66	*08	*44	*05	*07							SSP	
4079	*02	*25	*08	*44	*05	*07							SSP SSO	
4337							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSP SBT NGS	
5130	*02	*25	*08	*44	*05	*07	*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSO NGS	A*02:01L
5133							*02:01:01:01	*25:02	*08:01:01:01	*44:02:01:01	*05:01:01:02	*07:01:01:01	NGS	
5214	*02	*25	*08	*44	*05	*07								
5219	*02	*25	*08	*44	*05	*07	*02:01:01	*25:02	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSO NGS	
5462	*02	*25	*08	*44	*05	*07							RT-PCR	
5488							*02:01:01	*25:02	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSO NGS	
8021							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SSO NGS	

**Table 4: Individual laboratory results for B-cell #583- Class I**

Low resolution							High resolution						METHOD	Other Alleles
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
8029	*02	*25	*08	*44	*05	*07							SSO	
8068	*02	*25	*08	*44	*05	*07							SSO	
8086							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	SBT	
8122							*02:01	*25:02	*08:01	*44:02	*05:01	*07:01	NGS	
8123	*02	*25	*08	*44	*05	*07							RT-PCR	



**Table 5b: Individual laboratory results for B-cell #584 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
278	*13	*15	3*02	5*01	*01	*01	*05	*06	*01	*01	*04	*04	SSP SSO	
725	*13	*15	3*PRESENT	5*PRESENT	*01	*01	*05	*06					SSP SSO	
747	*13	*15	3*02	5*01	*01	*01	*05	*06	*01	*01	*04	*04	SSP SSO NGS	
774	*13	*15	3*02	5*01	*01	*01	*05	*06			*04(DP401)		SSP SSO	
792	*13	*15	3*02	5*01	*01	*01	*05	*06	*01	*01	*04	*04	SSO NGS	
793	*13	*15	3*PRESENT	5*PRESENT	*01	*01	*05	*06			*04			
794	*13	*15	3*02	5*01	*01		*05	*06	*01		*04		SSP SSO NGS	
2400	*13	*15	3*02	5*01	*01	*01	*05	*06			*04		RT-PCR	
2847	*13	*15											SSO NGS	
													SSO	
3519	*13	*15	3*02	5*01	*01		*05	*06	*01		*04(DP401)		SSP NGS	
3753			3*02	5*01	*01	*01			*01	*01			RT-PCR	
3966													SSO SBT	
4079	*13	*15	3*02	5*01	*01	*01	*05	*06	*01	*01	*04(DP401)	*04(DP401)	SSP	
4079	*13	*15	3*02	5*01	*01	*01	*05	*06	*01	*01	*04(DP401)	*04(DP401)	SSP SSO	
5130	*13	*15	3*02	5*01	*01	*01	*05	*06			*04	*04	SSO NGS	
5214	*13	*15	3*02	5*01	*01	*01	*05	*06	*01		*04(DP401)			
5219	*13	*15			*01	*01	*05	*06					SSO NGS	
5451	*13	*15	3*02	5*01	*01	*01	*05	*06					SSO SBT	
5462	*13	*15	3*02	5*01	*01		*05	*06	*01		NT	NT	RT-PCR	
6649	*13	*15					*05	*06					SSO	
8029	*13	*15			*01	*01	*05	*06					SSO	
8043	*13	*15			*01	*01	*05	*06					SSP SSO	
8068	*13	*15			*01	*01	*05	*06					SSO	
8123	*13	*15	3*02	5*01	*01	*01	*05	*06	*01	*01	*04(DP401)	*04(DP401)	RT-PCR	

**Table 5b: Individual laboratory results for B-cell #584 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03	*01:03	*04:01	*04:01	SSO NGS	
278	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03	*01:03	*04:01	*04:01	SSP SSO	
747	*13:08	*15:02:02	3*02:02:01	5*01:02	*01:03:01	*01:04:01	*05:03:01	*06:01	*01:03:01	*01:03:01	*04:01:01	*04:01:01	SSP SSO NGS	
762	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03		*04:01		NGS	
774	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01			*04:01		SSP SSO	DQB1*06:245 DQB1*05:43
792	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03	*01:03	*04:01	*04:01	SSO NGS	
793					*01:03	*01:04					*04:01			
794	*13:08	*15:02:02	3*02:02:01	5*01:02	*01:03	*01:04	*05:03:01	*06:01:01	NT	NT	*04:01:01		SSP SSO NGS RT-PCR	DQB1*06:01:15
2344	*13:08	*15:02:02	NT	NT	NT	NT	*05:03:01	*06:01:01	NT	NT	*04:01:01	*04:01:01	NGS	
2400	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01			*04:01P		SSO NGS	
3135	*13:08	*15:02:02	3*02:02	5*01:02	*01:03	*01:01	*05:03P	*06:01P	*01:03		*04:01:01			DQA1*01:04 DQA1*01:05
3224	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03		*04:01		NGS	
3511	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03	*01:03	*04:01	*04:01	SSP SSO	
3519	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03		*04:01		SSP NGS RT-PCR	
3753	*13:08	*15:02					*05:03	*06:01			*04:01	*04:01	SSO SBT	DQB1*06:157 DQB1*06:285 DQB1*06:307 DQB1*06:309 DQB1*06:245 DQB1*06:258 DPB1*939:01
3966	*13:08	*15:02	3*02:02	5*01:02			*05:03	*06:01					SSP	
4337	*13:08	*15:02					*05:03	*06:01			*04:01	*04:01	SSP SBT NGS	
5130	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01			*04:01	*04:01	SSO NGS	
5133	*13:08	*15:02:02	3*02:02:01	5*01:02	*01:03:01	*01:04:01	*05:03:01	*06:01:01	*01:03:01		*04:01:01		NGS	
5214											*04:01G			
5219	*13:08	*15:02:02					*05:03:01	*06:01:01			*04:01:01	*04:01:01	SSO NGS	
5451	*13:08	*15:02:02											SSO SBT	
5488	*13:08	*15:02:02	3*02:02:01	5*01:02	*01:03:01	*01:04:01	*05:03:01	*06:01:01	*01:03:01		*04:01:01		SSO NGS	
8021	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03		*04:01		SSO NGS	
8043	*13:08	*15:02			*01:03	*01:04	*05:03	*06:01					SSP SSO	
8086	*13:08	*15:02			*01:03	*01:04	*05:03	*06:01	*01:03:01G	*01:03:01G	*04:01	*04:01	SBT	
8122	*13:08	*15:02	3*02:02	5*01:02	*01:03	*01:04	*05:03	*06:01	*01:03		*04:01		NGS	DPB1*939:01
8123					*01:03		*05:03	*06:01	*01:03	*01:03	*04:01	*04:01	RT-PCR	

**Table 6: Individual laboratory results for B-cell #584- Class I**

Table 6: Individual laboratory results for B-cell #584- Class I														
Center	Low resolution						High resolution						METHOD	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
230							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSO NGS	
278	*03	*31	*15	*35	*04	*07	*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSP SSO	
725	*03	*31	*15	*35	*04	*07							SSP SSO	
747	*03	*31	*15	*35	*04	*07	*03:01:01	*31:01:02	*15:18:01	*35:03:01	*04:01:01	*07:04:01	SSP SSO NGS	
774	*03	*31	*15	*35	*04	*07			*15:18				SSP SSO	B*15:133 B*15:134 B*15:292 B*15:294N B*15:307 B*15:311 B*15:314
792	*03	*31	*15	*35	*04	*07	*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSO NGS	
793	*03	*31	*15	*35	*04	*07								
794	*03	*31	*15	*35	*04	*07	*03:01:01	*31:01:02	*15:18:01	*35:03:01	*04:01:01	*07:04:01	SSP SSO NGS RT-PCR	
2344							*03:01:01	*31:01:02	*15:18:01	*35:03:01	*04:01:01	*07:04:01	NGS	
2400	*03	*31	*15	*35	*04	*07	*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSO NGS	
2847	*03	*31	*15	*35	*04	*07							SSO	
3135							*03:01P	*31:01P	*15:18:01	*35:03P	*04:01:01G	*07:04P		
3224							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	NGS	
3511							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSP SSO	
3519	*03	*31	*15	*35	*04	*07	*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSP NGS RT-PCR	
3753							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSO SBT	C*07:876 A*31:155 B*15:29 B*15:80 B*15:133 B*35:01 B*35:57 B*35:85 B*35:151 B*35:344 A*31:119 A*31:135 A*31:151Q C*07:11 C*07:693
3966	*03	*31	*15	*35	*04	*07							SSP	
4079	*03	*31	*15	*35	*04	*07							SSP SSO	
4337							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSP SBT NGS	
5130	*03	*31	*15	*35	*04	*07	*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSO NGS	
5133							*03:01:01:01	*31:01:02:01	*15:18:01:02	*35:03:01:01	*04:01:01:14	*07:04:01:01	NGS	
5214	*03	*31	*15(B71)	*35	*04	*07								
5219	*03	*31	*15	*35	*04	*07	*03:01:01	*31:01:02	*15:18:01	*35:03:01	*04:01:01	*07:04:01	SSO NGS	
5462	*03	*31	*15	*35	*04	*07							RT-PCR	
5488							*03:01:01	*31:01:02	*15:18:01	*35:03:01	*04:01:01	*07:04:01	SSO NGS	
8021							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SSO NGS	
8029	*03	*31	*15	*35	*04	*07							SSO	
8068	*03	*31	*15	*35	*04	*07							SSO	
8086							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	SBT	
8122							*03:01	*31:01	*15:18	*35:03	*04:01	*07:04	NGS	
8123	*03	*31	*15	*35	*04	*07			*15:10				RT-PCR	B*15:18

## CELL EXCHANGE #421

The results for Cell Exchange #421 are summarized in Table 7 - 10. Molecular typing results for individual laboratories are listed in Tables 11 – 18 for each sample. Twelve labs submitted low and/or high resolution class II results for this study. We would like to thank each of them for sharing their results

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 1681.** The reported HLA type for this cell from a Black donor is A\*02:05-A\*68:01-B\*27:03-B\*53:01-C\*02:02-C\*04:01-DRB1\*03:01-DRB1\*08:04-DRB3\*02:02-DQA1\*04:01-DQA1\*05:01-DQB1\*02:01-DQB1\*03:19-DPA1\*01:03-DPA1\*02:01-DPB1\*17:01. Good agreement ( $\geq 90\%$ ) was achieved across each loci for all allele assignments.

Likely associations present in this cell are A\*02:05-B\*27:03-C\*02:02 and A\*68:01-B\*53:01-C\*04:01, observed in African American populations, with respective HF = 0.00042 and 0.00049.

**Cell 1682.** The reported HLA type for this cell from a donor of mixed Caucasian and Asian descent is A\*29:02-A\*33:03-B\*44:03-C\*07:06-C\*16:01-DRB1\*07:01-DRB1\*15:01-DRB4\*01:01-DRB5\*01:01-DQA1\*01:02, DQA1\*02:01, DQB1\*02:02-DQB1\*06:02-DPA1\*01:03-DPA1\*02:01-DPB1\*02:01-DPB1\*03:01.

Good agreement ( $\geq 90\%$ ) was achieved for all allele assignments, except C\*07. The subtype for C\*07 remained unresolved with 10 labs assigning C\*07:06, 2 labs assigning C\*07:01, and 1 lab assigning C\*07:01:01G. C\*07:06 differs from C\*07:01 in exon 6 by a single amino acid substitution at codon 324 (GCT → GTT), resulting in an amino acid change from alanine to valine in C\*07:06.

One likely association present in this cell is A\*29:02-B\*44:03-DRB1\*15:01, observed in Caucasians, with HF = 0.00147. The other likely association present is A\*33:03-B\*44:03-DRB1\*07:01, commonly observed in Asians, with HF = 0.01499.

**Cell 1683.** The reported HLA type for this cell from a donor of mixed descent (Caucasian/Asian/Hispanic) is A\*29:02-A\*34:01-B\*40:02-B\*44:03-C\*15:02-C\*16:01-DRB1\*07:01-DRB1\*15:02-DRB4\*01:01-DRB5\*01:01-DQA1\*01:02-DQA1\*02:01-DQB1\*02:02-DQB1\*05:02-DPA1\*02:01-DPA1\*02:02-DPB1\*01:01-DPB1\*11:01. For class I loci,  $\geq 90\%$  consensus was achieved among labs for each allele assignment. For class II, consensus for allele assignment was  $\geq 88\%$  for each allele assignment.

One likely association present in this cell is A\*29:02-B\*44:03-C\*16:01. It is the most common association found in Hispanics, with HF = 0.02457. The other likely association present is A\*34:01-B\*40:02-C\*15:02, observed exclusively in Asian populations, with HF = 0.00300.

**Cell 1684.** The reported HLA type for this cell from a Black donor is A\*02:01-A\*30:01-B\*15:03-B\*18:01-C\*02:10-C\*16:01-DRB1\*07:01-DRB1\*15:03-DRB4\*01:01-DRB5\*01:01-DQA1\*01:02-DQA1\*02:01-DQB1\*02:02-DQB1\*06:02-DPA1\*01:03-DPA1\*01-DPB1\*04:01-DPB1\*18:01. For all allele assignments, except DPA1,  $\geq 88\%$  consensus was achieved by labs reporting at high resolution. Four labs submitted DPA1 high resolution results. For the first DPA1 type, all 4 labs reported DPA1\*01:03. The second DPA1 type remained unresolved, with 2 labs reporting DPA1\*01:33, 1 lab reporting DPA1\*01:03, and 1 lab reporting DPA1\*01:03:01G.

The likely associations present in this cell are A\*02:01-B\*18:01-DRB1\*07:01 and A\*30:01-B\*15:03-DRB1\*15:03, observed in African American populations, with respective HF = 0.00057 and 0.00024.

**NEXT MAILING DATE: MAY 5, 2021**

*Arlene Locke, David Gjertson, Qiheng Zhang, and Elaine F. Reed*

**Table 7: Summary of the 421<sup>st</sup> Cell Exchange - DNA Typing**

**Cell 1681**

DNA Typing - class I	<b>12 labs High; 15 labs low- A</b>		<b>12 labs High; 14 labs low- B</b>		<b>13 labs High; 14 labs low- C</b>	
		%(n)		%(n)		%(n)
	A*02:05:01	17(2)	B*27:03	100(12)	C*02:02:02	15(2)
	A*02:05	83(10)	B*27	100(14)	C*02:02	85(11)
	A*02	100(15)			C*02	100(14)
<b>13 labs High; 15 labs low- A</b>		<b>13 labs High; 15 labs low- B</b>		<b>13 labs High; 13 labs low- C</b>		
	%(n)		%(n)		%(n)	
A*68:01:01:02	8 (1)	B*53:01:01:01	8 (1)	C*04:01:01	15(2)	
A*68:01:01	8 (1)	B*53:01:01	8 (1)	C*04:01:01G	15(2)	
A*68:01	84(11)	B*53:01P	8 (1)	C*04:01	69(9)	
A*68	100(15)	B*53:01	76(10)	C*04	100(13)	
		B*53	100(15)			

DNA Typing - class II	<b>11 labs High; 10 labs low-DRB1</b>		<b>7 labs High; 6 labs low-DRB3/4/5</b>		<b>8 labs High; 9 labs Low-DQA1</b>		<b>10 labs High; 9 labs Low-DQB1</b>		<b>6 labs High; 6 labs Low-DPA1</b>		<b>9 labs High; 7 labs Low-DPB1</b>	
		%(n)		%(n)		%(n)		%(n)		%(n)		%(n)
	DRB1*03:01:01	18(2)	DRB3*02:02:01	29(2)	DQA1*04:01:02:02	12(1)	DQB1*02:01:01	10(1)	DPA1*01:03:01	33(2)	DPB1*17:01:01	22(2)
	DRB1*03:01:01G	9 (1)	DRB3*02:02:01G	14(1)	DQA1*04:01:02	12(1)	DQB1*02:01:01G	10(1)	DPA1*01:03:01G	17(1)	DPB1*17:01	78(7)
	DRB1*03:01P	9 (1)	DRB3*02:02	57(4)	DQA1*04:01	75(6)	DQB1*02:01	80(8)	DPA1*01:03	50(3)	DPB1*17	100(7)
DRB1*03:01	64(7)	DRB3*02	83(5)	DQA1*04	100(9)	DQB1*02	100(9)	DPA1*01	100(6)			
DRB1*03	100(10)	DRB3*PRESENT	17(1)									
<b>11 labs High; 10 labs low-DRB1</b>				<b>8 labs High; 9 labs Low-DQA1</b>		<b>10 labs High; 9 labs Low-DQB1</b>		<b>6 labs High; 6 labs Low-DPA1</b>				
	%(n)		%(n)		%(n)		%(n)		%(n)		%(n)	
DRB1*08:04:01	18(2)			DQA1*05:01:01	25(2)	DQB1*03:19:01:01	10(1)	DPA1*02:01:01:08	16(1)			
DRB1*08:04:01G	9 (1)			DQA1*05:01	75(6)	DQB1*03:01:01G	10(1)	DPA1*02:01:01	16(1)			
DRB1*08:04	73(8)			DQA1*05	100(9)	DQB1*03:19	80(8)	DPA1*02:01:01G	16(1)			
DRB1*08	100(10)					DQB1*03	100(9)	DPA1*02:01	50(3)			
								DPA1*02	100(6)			

**Table 8: Summary of the 421<sup>st</sup> Cell Exchange - DNA Typing**

**Cell 1682**

DNA Typing - class I		<u>12 labs High; 15 labs low- A</u>		<u>13 labs High; 15 labs low- B</u>		<u>13 labs High; 14 labs low- C</u>												
			%(n)		%(n)		%(n)											
	A*29:02:01:01	8	(1)	B*44:03:01:04	8	(1)	C*07:06:01:01	8	(1)									
	A*29:02:01	8	(1)	B*44:03:01	8	(1)	C*07:01:01G	8	(1)									
	A*29:02	83	(10)	B*44:03	84	(11)	C*07:01	15	(2)									
	A*29	100	(15)	B*44	100	(15)	C*07:06	69	(9)									
							C*07	100	(14)									
DNA Typing - class II		<u>10 labs High; 10 labs low-DRB1</u>		<u>7 labs High; 5 labs low-DRB3/4/5</u>		<u>8 labs High; 9 labs Low-DQA1</u>		<u>10 labs High; 9 labs Low-DQB1</u>		<u>6 labs High; 5 labs Low-DPA1</u>		<u>9 labs High; 7 labs Low-DPB1</u>						
			%(n)		%(n)		%(n)		%(n)		%(n)		%(n)					
	DRB1*07:01:01	20	(2)	DRB4*01:01:01	29	(2)	DQA1*01:02:01	25	(2)	DQB1*02:02:01	10	(1)	DPA1*01:03:01	33	(2)	DPB1*02:01:02	22	(2)
	DRB1*07:01:01G	10	(1)	DRB4*01:01	71	(5)	DQA1*01:02	75	(6)	DQB1*02:01:01G	10	(1)	DPA1*01:03:01G	17	(1)	DPB1*02:01	78	(7)
	DRB1*07:01	70	(7)	DRB4*01	80	(4)	DQA1*01	100	(9)	DQB1*02:02	80	(8)	DPA1*01:03	50	(3)	DPB1*02	100	(7)
	DRB1*07	100	(10)	DRB4*PRESENT	20	(1)				DQB1*02	100	(9)	DPA1*01	100	(5)			
DNA Typing - class II		<u>10 labs High; 10 labs low-DRB1</u>		<u>7 labs High; 5 labs low-DRB3/4/5</u>		<u>8 labs High; 8 labs Low-DQA1</u>		<u>9 labs High; 9 labs Low-DQB1</u>		<u>6 labs High; 5 labs Low-DPA1</u>		<u>9 labs High; 7 labs Low-DPB1</u>						
			%(n)		%(n)		%(n)		%(n)		%(n)		%(n)					
	DRB1*15:01:01	20	(2)	DRB5*01:01:01	29	(2)	DQA1*02:01:01	25	(2)	DQB1*06:02:01	22	(2)	DPA1*02:01:01	33	(2)	DPB1*03:01:01	22	(2)
	DRB1*15:01:01G	10	(1)	DRB5*01:01:01G	14	(1)	DQA1*02:01	75	(6)	DQB1*06:02:01G	11	(1)	DPA1*02:01	67	(4)	DPB1*03:01:01G	11	(1)
	DRB1*15:01	70	(7)	DRB5*01:01	57	(4)	DQA1*02	88	(7)	DQB1*06:02	67	(6)	DPA1*02	100	(5)	DPB1*03:01	67	(6)
	DRB1*15	100	(10)	DRB5*PRESENT	80	(4)	DQA1*01	12	(1)	DQB1*06	100	(9)				DPB1*03	100	(7)
				DRB5*01	20	(1)												

**Table 9: Summary of the 421<sup>st</sup> Cell Exchange - DNA Typing**

**Cell 1683**

DNA Typing - class I	<u>10 labs High; 13 labs low- A</u>	%(n)	<u>11 labs High; 13 labs low- B</u>	%(n)	<u>10 labs High; 11 labs low- C</u>	%(n)
	A*29:02:01:01	10(1)		B*40:02:01:01	9 (1)	C*15:02:01:01
A*29:02	90(9)		B*40:02:01G	9 (1)	C*15:02	90(9)
A*29	100(13)		B*40:02	82(9)	C*15	100(11)
			B*40	100(13)		
	<u>10 labs High; 12 labs low- A</u>	%(n)	<u>11 labs High; 13 labs low- B</u>	%(n)	<u>10 labs High; 11 labs low- C</u>	%(n)
A*34:01:01:01	10(1)		B*44:03:01	9 (1)	C*16:01:01:01	10(1)
A*34:01	90(9)		B*44:03	91(10)	C*16:01	90(9)
A*34	100(12)		B*44	100(13)	C*16	100(11)

DNA Typing - class II	<u>8 labs High; 8 labs low-DRB1</u>	%(n)	<u>5 labs High; 4 labs low-DRB3/4/5</u>	%(n)	<u>6 labs High; 7 labs Low-DQA1</u>	%(n)	<u>8 labs High; 7 labs Low-DQB1</u>	%(n)	<u>4 labs High; 4 labs Low-DPA1</u>	%(n)	<u>7 labs High; 6 labs Low-DPB1</u>	%(n)
	DRB1*07:01:01	12(1)		DRB4*01:01:01:01	20(1)	DQA1*01:02:01	17(1)	DQB1*02:02:01	12(1)	DPA1*02:01:01	25(1)	DPB1*01:01:01
DRB1*07:01:01G	12(1)		DRB4*01:01:01	20(1)	DQA1*01:02	83(5)	DQB1*02:01:01G	12(1)	DPA1*02:01:01G	25(1)	DPB1*01:01:01G	14(1)
DRB1*07:01	75(6)		DRB4*01:01	60(3)	DQA1*01	100(7)	DQB1*02:02	75(6)	DPA1*02:01	50(2)	DPB1*01:01P	14(1)
DRB1*07	100(8)		DRB4*01	100(4)			DQB1*02	100(7)	DPA1*02	100(4)	DPB1*01:01	57(4)
											DPB1*01	100(6)
	<u>9 labs High; 8 labs low-DRB1</u>	%(n)	<u>5 labs High; 4 labs low-DRB3/4/5</u>	%(n)	<u>6 labs High; 7 labs Low-DQA1</u>	%(n)	<u>8 labs High; 7 labs Low-DQB1</u>	%(n)	<u>4 labs High-DPA1</u>	%(n)	<u>7 labs High; 6 labs Low-DPB1</u>	%(n)
DRB1*15:02:01	11(1)		DRB5*01:01:01	20(1)	DQA1*02:01:01	17(1)	DQB1*05:02:01	12(1)	DPA1*02:02:02	25(1)	DPB1*11:01:01G	14(1)
DRB1*15:02:01G	22(2)		DRB5*01:01:01G	10(1)	DQA1*02:01	83(5)	DQB1*05:02:01G	12(1)	DPA1*02:02:02G	25(1)	DPB1*11:01:01	14(1)
DRB1*15:02P	11(1)		DRB5*01:01	60(3)	DQA1*02	86(6)	DQB1*05:02	75(6)	DPA1*02:02	50(2)	DPB1*11:01P	14(1)
DRB1*15:02	56(5)		DRB5*01	100(4)	DQA1*01	14(1)	DQB1*05	100(7)			DPB1*11:01	57(4)
DRB1*15	100(8)										DPB1*11	100(6)

**Table 10: Summary of the 421<sup>st</sup> Cell Exchange - DNA Typing**

**Cell 1684**

DNA Typing - class I	<u>10 labs High;13 labs low- A</u>	%(n)	<u>11 labs High; 13 labs low- B</u>	%(n)	<u>11 labs High; 11 labs low- C</u>	%(n)
	A*02:01:01:01	10(1)		B*15:03:01:02	9 (1)	C*02:10:01:01
A*02:01	90(9)		B*15:03:01G	9 (1)	C*02:10	91(10)
A*02	100(13)		B*15:03	82(9)	C*02	100(11)
			B*15	92(12)		
			B*78	8 (1)		
<u>11 labs High;13 labs low- A</u>	%(n)	<u>10 labs High; 13 labs low- B</u>	%(n)	<u>11 labs High; 11 labs low- C</u>	%(n)	
A*30:01:01:01	9 (1)	B*18:01:01:51	10(1)	C*16:01:01:01	9 (1)	
A*30:01	91(10)	B*18:01P	10(1)	C*16:01	91(10)	
A*30	100(13)	B*18:01	80(8)	C*16	100(11)	
		B*18	100(13)			

DNA Typing - class II	<u>6 labs High; 8 labs low-DRB1</u>	%(n)	<u>5 labs High; 3 labs low-DRB3/4/5</u>	%(n)	<u>6 labs High; 7 labs Low-DQA1</u>	%(n)	<u>8 labs High; 7 labs Low-DQB1</u>	%(n)	<u>4 labs High; 3 labs Low-DPA1</u>	%(n)	<u>7 labs High; 5 labs Low-DPB1</u>	%(n)
	DRB1*07:01:01	17(1)		DRB4*01:01:01	20(1)	DQA1*01:02:01	17(1)	DQB1*02:02:01	12(1)	DPA1*01:03:01	25(1)	DPB1*04:01:01
DRB1*07:01:01G	17(1)		DRB4*01:01	80(4)	DQA1*01:02	83(5)	DQB1*02:01:01G	12(1)	DPA1*01:03:01G	25(1)	DPB1*04:01	86(6)
DRB1*07:01	67(4)		DRB4*01	100(3)	DQA1*01	100(7)	DQB1*02:02	75(6)	DPA1*01:03	50(2)	DPB1*04(DP401)	60(3)
DRB1*07	100(8)						DQB1*02	100(7)	DPA1*01	100(3)	DPB1*04	40(2)
<u>6 labs High; 8 labs low-DRB1</u>	%(n)	<u>5 labs High; 3 labs low-DRB3/4/5</u>	%(n)	<u>6 labs High; 7 labs Low-DQA1</u>	%(n)	<u>7 labs High; 7 labs Low-DQB1</u>	%(n)	<u>4 labs High-DPA1</u>	%(n)	<u>7 labs High; 5 labs Low-DPB1</u>	%(n)	
DRB1*15:03:01	16(1)	DRB5*01:01:01	20(1)	DQA1*02:01:01	17(1)	DQB1*06:02:01	14(1)	DPA1*01:03:01G	25(1)	DPB1*18:01:01	14(1)	
DRB1*15:03:01G	16(1)	DRB5*01:01:01G	20(1)	DQA1*02:01	83(5)	DQB1*06:02:01G	14(1)	DPA1*01:33	50(2)	DPB1*18:01	86(6)	
DRB1*15:03P	16(1)	DRB5*01:01	60(3)	DQA1*02	86(6)	DQB1*06:02	71(5)	DPA1*01:03	25(1)	DPB1*18	100(5)	
DRB1*15:03	50(3)	DRB5*01	100(3)	DQA1*01	14(1)	DQB1*06	100(7)					
DRB1*15	100(8)											



**Table 11. Individual laboratory results for Cell #1681 - 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	*27	*53	*02	*04	*02:05	*68:01	*27:03	*53:01	*02:02	*04:01	SSP SSO	
725	*02	*68	*27	*53	*02	*04							SSO	
731	*02	*68	*27	*53	*02	*04	*02:05	*68:01	*27:03	*53:01	*02:02	*04:01	SSP SSO SBT RT-PCR	
747	*02	*68	*27	*53	*02	*04	*02:05:01	*68:01:01	*27:03	*53:01:01	*02:02:02	*04:01:01	SSP SSO NGS	
762							*02:05	*68:01	*27:03	*53:01	*02:02	*04:01	NGS	
771	*02	*68	*27	*53	*02	*04	*02:05	*68:01	*27:03	*53:01	*02:02	*04:01	SSP SSO NGS	
774	*02	*68	*27	*53	*02	*04							SSP SSO	
3545	*02	*68	*27	*53	*02	*04	*02:05	*68:01	*27:03	*53:01	*02:02	*04:01	SSO SBT	
3808	*02	*68	*27	*53	*02	*04		*68:01		*53:01	*02:02	*04:01:01G		
4079	*02	*68	*27	*53	*02	*04	*02:05	*68:01	*27:03	*53:01	*02:02	*04:01	SSP NGS	
4251							*02:05	*68:01	*27:03	*53:01	*02:02	*04:01	NGS	
5133							*02:05:01:01	*68:01:01:02	*27:03	*53:01:01:01	*02:02:02	*04:01:01	NGS	
5462	*02	*68	*27	*53	*02	*04	*02:05	*68:01	*27:03	*53:01P	*02:02	*04:01	SSO	B*53:54
6649	*02	*68	*27	*53									SSO	
8001							*02:05	*68:01	*27:03	*53:01	*02:02	*04:01		
8043	*02	*68	*27	*53	*02	*04	*02:05	*68:01	*27:03	*53:01	*02:02	*04:01:01G	SSP SSO	
8058	*02	*68		*53	*02								OTHER	
8103	*02	*68	*27	*53	*02	*04							SSO	
8119	*02	*68	*27	*53	*02	*04							SSP RT-PCR	

**Table 12a: Individual laboratory results for Cell #1681 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*03	*08	3*02		*04	*05	*02	*03	*01	*02	*17	*17	SSP SSO SBT RT-PCR	
747	*03	*08	3*PRESENT		*04	*05	*02	*03	*01	*02	*17	*17	SSP SSO NGS	
771	*03	*08			*04	*05	*02	*03			*17		SSP SSO NGS	
774	*03	*08	3*02		*04	*05	*02	*03			*17		SSP SSO	
3545	*03	*08											SSO SBT	
3808	*03	*08	NT	NT	*04	*05	*02	*03	*01	*02	*17	*17		
4079	*03	*08	3*02	3*02	*04	*05	*02	*03	*01	*02	*17		SSP NGS	
5462	*03	*08	3*02	NP	*04	*05	*02	*03	*01	*02	NT		SSO	
8103	*03	*08			*04	*05	*02	*03	*01	*02			SSO	
8119	*03	*08	3*02		*04	*05	*02	*03			*17		SSP RT-PCR	

**Table 12b: Individual laboratory results for Cell #1681 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*03:01	*08:04					*02:01	*03:19					SSP SSO SBT RT-PCR	
747	*03:01:01	*08:04:01	3*02:02:01		*04:01:02:02	*05:01:01	*02:01:01	*03:19	*01:03:01	*02:01:01	*17:01:01	*17:01:01	SSP SSO NGS	DQB1*02:163N
771	*03:01	*08:04					*02:01	*03:19			*17:01		SSP SSO NGS	
774	*03:01	*08:04	3*02:02		*04:01	*05:01	*02:01	*03:19			*17:01		SSP SSO	DRB1*03:58 DRB1*03:61 DRB1*03:62 DRB1*03:66 DRB1*03:68N DRB1*03:72 DRB1*03:73 DRB1*03:83+
3545	*03:01	*08:04											SSO SBT	DRB1*08:28 DRB1*03:06
3808	*03:01	*08:04			*04:01	*05:01	*02:01	*03:01:01G	*01:03	*02:01	*17:01	*17:01		
4079	*03:01	*08:04	3*02:02	3*02:02	*04:01	*05:01	*02:01	*03:19	*01:03	*02:01	*17:01		SSP NGS	
4251	*03:01:01G	*08:04:01G	3*02:02:01G		*04:01	*05:01	*02:01:01G	*03:19	*01:03:01G	*02:01:01G	*17:01	*17:01	NGS	
5133	*03:01:01	*08:04:01	3*02:02:01		*04:01:02	*05:01:01	*02:01:01	*03:19:01:01	*01:03:01	*02:01:01:08	*17:01:01		NGS	
5462	*03:01P	*08:04	3*02:02	NP	*04:01	*05:01	*02:01	*03:19	*01:03	*02:01	*17:01		SSO	DRB1*03:147 B*53:54
8001	*03:01	*08:04	3*02:02		*04:01	*05:01	*02:01	*03:19			*17:01			
8119	NT												SSP RT-PCR	DQB1*03:01 DQB1*03:19 DRB1*03:01

**Table 13. Individual laboratory results for Cell #1682 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*29	*33	*44	*44	*07	*16	*29:02	*33:03	*44:03	*44:03	*07:06	*16:01	SSP SSO	
725	*29	*33	*44		*07	*16							SSO	
731	*29	*33	*44	*44	*07	*16	*29:02	*33:03	*44:03	*44:03	*07:01	*16:01	SSP SSO SBT RT-PCR	
747	*29	*33	*44	*44	*07	*16	*29:02:01	*33:03:01	*44:03:01	*44:03:02	*07:06	*16:01:01	SSP SSO NGS	
762							*29:02	*33:03	*44:03		*07:06	*16:01	NGS	
771	*29	*33	*44	*44	*07	*16	*29:02	*33:03	*44:03	*44:03	*07:06	*16:01	SSP SSO NGS	
774	*29	*33	*44		*07	*16							SSP SSO	
3545	*29	*33	*44	*44	*07	*16	*29:02	*33:03	*44:03	*44:03	*07:01	*16:01	SSO SBT	
3808	*29	*33	*44	*44	*07	*16			*44:03		*07:01:01G	*16:01		
4079	*29	*33	*44	*44	*07	*16	*29:02	*33:03	*44:03	*44:03	*07:06	*16:01	SSP NGS	
4251							*29:02	*33:03	*44:03	*44:03	*07:06	*16:01	NGS	
5133							*29:02:01:01	*33:03:01:01	*44:03:01:04	*44:03:02:01	*07:06:01:01	*16:01:01:01	NGS	
5462	*29	*33	*44	*44	*07	*16	*29:02	*33:03	*44:03	*44:03	*07:06	*16:01	SSO	
6649	*29	*33	*44										SSO	
8001							*29:02	*33:03	*44:03		*07:06	*16:01		
8043	*29	*33	*44		*07	*16	*29:02	*33:03	*44:03		*07:06	*16:01	SSP SSO	
8058	*29		*44	45	*07								OTHER	
8103	*29	*33	*44	*44	*07	*16							SSO	
8119	*29	*33	*44		*07	*16							SSP RT-PCR	

**Table 14a: Individual laboratory results for Cell #1682 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*07	*15			*01	*02	*02	*06					SSP SSO SBT RT-PCR	
747	*07	*15	4*PRESENT	5*PRESENT	*01	*02	*02	*06	*01	*02	*02	*03	SSP SSO NGS	
771	*07	*15			*01		*02	*06			*02	*03	SSP SSO NGS	
774	*07	*15	4*01	5*01	*01	*02	*02	*06			*02(DP201)	*03	SSP SSO	
3545	*07	*15											SSO SBT	
3808	*07	*15	NT	NT	*01	*02	*02	*06	*01	*02	*02(DP201)	*03		
4079	*07	*15	4*01	5*01	*01	*02	*02	*06	*01	*02	*02(DP201)	*03	SSP NGS	
5462	*07	*15	4*01	5*01	*01	*02	*02	*06	*01	*02	NT	NT	SSO	
8103	*07	*15			*01	*01	*02	*06	*01	*02	*02	*03	SSO	
8119	*07	*15	4*01	5*01	*01	*02	*02	*06			*02(DP201)	*03	SSP RT-PCR	

**Table 14b: Individual laboratory results for Cell #1682 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*07:01	*15:01					*02:02	*06:02					SSP SSO SBT RT-PCR	
747	*07:01:01	*15:01:01	4*01:01:01	5*01:01:01	*01:02:01	*02:01:01	*02:02	*06:02:01	*01:03:01	*02:01:01	*02:01:02	*03:01:01	SSP SSO NGS	DQB1*02:156 DQB1*02:163N
771	*07:01	*15:01					*02:02	*06:02			*02:01	*03:01	SSP SSO NGS	
774	*07:01	*15:01	4*01:01	5*01:01	*01:02	*02:01	*02:02	*06:02			*02:01	*03:01	SSP SSO	DRB5*01:16 DRB1*07:31 DRB1*07:33 DRB1*15:87
3545	*07:01	*15:01											SSO SBT	
3808					*01:02	*02:01	*02:02		*01:03	*02:01	*02:01	*03:01:01G		
4079	*07:01	*15:01	4*01:01	5*01:01	*01:02	*02:01	*02:02	*06:02	*01:03	*02:01	*02:01	*03:01	SSP NGS	
4251	*07:01:01G	*15:01:01G	4*01:01	5*01:01:01G	*01:02	*02:01	*02:01:01G	*06:02:01G	*01:03:01G	*02:01	*02:01	*03:01	NGS	
5133	*07:01:01	*15:01:01	4*01:01:01	5*01:01:01	*01:02:01	*02:01:01	*02:02:01	*06:02:01	*01:03:01	*02:01:01	*02:01:02	*03:01:01	NGS	DPB1*352:01 DPB1*124:01
5462	*07:01	*15:01	4*01:01	5*01:01	*01:02	*02:01	*02:02	*06:02	*01:03	*02:01	*02:01	*03:01	SSO	
8001	*07:01	*15:01	4*01:01	5*01:01	*01:02	*02:01	*02:02	*06:02			*02:01	*03:01		
8119	NT												SSP RT-PCR	

**Table 15. Individual laboratory results for Cell #1683 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*29	*34	*40	*44	*15	*16	*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	SSP SSO	
725	*29	*34	*40	*44	*15	*16							SSO	
731	*29	*34	*40	*44	*15	*16	*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	SSP SSO SBT RT-PCR	
747	NT												SSP SSO NGS	
762							*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	NGS	
771	*29	*34	*40	*44	*15	*16	*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	SSP SSO NGS	
774	*29	*34	*40	*44	*15	*16							SSP SSO	
3545	*29	*34	*40	*44	*15	*16	*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	SSO SBT	
3808	*29	*34	*40	*44	*15	*16			*40:02:01G	*44:03				
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251							*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	NGS	
5133							*29:02:01:01	*34:01:01:01	*40:02:01:01	*44:03:01	*15:02:01:01	*16:01:01:01	NGS	
5462	*29	*34	*40	*44	*15	*16	*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	SSO	
6649	*29	*34	*40	*44									SSO	
8001							*29:02	*34:01	*40:02	*44:03	*15:02	*16:01		
8043	*29	*34	*40	*44	*15	*16	*29:02	*34:01	*40:02	*44:03	*15:02	*16:01	SSP SSO	
8058	*29		*40	*44									OTHER	
8103	*29	*34	*40	*44	*15	*16							SSO	
8119	*29	*34	*40	*44	*15	*16							SSP RT-PCR	B*40:02

**Table 16a: Individual laboratory results for Cell #1683 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*07	*15	4*01	5*01	*01	*02	*02	*05	*02	*02	*01	*11	SSP SSO SBT RT-PCR	
747	NT												SSP SSO NGS	
771	*07	*15			*01	*02	*02	*05			*01	*11	SSP SSO NGS	
774	*07	*15	4*01	5*01	*01	*02	*02	*05			*01	*11	SSP SSO	
3545	*07	*15											SSO SBT	
3808	*07	*15	NT	NT	*01	*02	*02	*05	*02	*02	*01	*11		
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
5462	*07	*15	4*01	5*01	*01	*02	*02	*05	*02	*02	NT	NT	SSO	
8103	*07	*15			*01	*01	*02	*05	*02	*02	*01	*11	SSO	
8119	*07	*15	4*01	5*01	*01	*02	*02	*05			*01	*11	SSP RT-PCR	

**Table 16b: Individual laboratory results for Cell #1683 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*07:01	*15:02					*02:02	*05:02					SSP SSO SBT RT-PCR	
747	NT												SSP SSO NGS	
771	*07:01	*15:02					*02:02	*05:02			*01:01	*11:01	SSP SSO NGS	
774	*07:01	*15:02	4*01:01:01:01	5*01:01	*01:02	*02:01	*02:02	*05:02			*01:01	*11:01	SSP SSO	DRB1*07:31 DRB1*07:33 DRB1*07:35 DRB1*15:60 DRB1*15:101
3545	*07:01	*15:02											SSO SBT	
3808		*15:02:01G			*01:02	*02:01	*02:02	*05:02	*02:01:01G	*02:02:02G	*01:01	*11:01		
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251	*07:01:01G	*15:02:01G	4*01:01	5*01:01:01G	*01:02	*02:01	*02:01:01G	*05:02:01G	*02:01	*02:02	*01:01:01G	*11:01:01G	NGS	
5133	*07:01:01	*15:02:01	4*01:01:01	5*01:01:01	*01:02:01	*02:01:01	*02:02:01	*05:02:01	*02:01:01	*02:02:02	*01:01:01	*11:01:01	NGS	DPB1*654:01 DPB1*417:01
5462	*07:01	*15:02P	4*01:01	5*01:01	*01:02	*02:01	*02:02	*05:02	*02:01	*02:02	*01:01P	*11:01P	SSO	DRB1*15:140 DPB1*417:01 DPB1*654:01 DRB1*15:149
8001	*07:01	*15:02	4*01:01	5*01:01	*01:02	*02:01	*02:02	*05:02			*01:01	*11:01		
8119	NT												SSP RT-PCR	

**Table 17. Individual laboratory results for Cell #1684 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*30	*15	*18	*02	*16	*02:01	*30:01	*15:03	*18:01	*02:10	*16:01	SSP SSO	C*02:02
725	*02	*30	*15	*18	*02	*16							SSO	
731	*02	*30	*15	*18	*02	*16	*02:01	*30:01	*15:03	*18:01	*02:10	*16:01	SSP SSO SBT RT-PCR	
747	NT												SSP SSO NGS	
771	*02	*30	*15	*18	*02	*16	*02:01	*30:01	*15:03	*18:01	*02:10	*16:01	SSP SSO NGS	
762							*02:01	*30:01	*15:03	*18:01	*02:10	*16:01	NGS	
774	*02	*30	*15	*18	*02	*16							SSP SSO	
3545	*02	*30	*15	*18	*02	*16	*02:01	*30:01	*15:03	*18:01	*02:10	*16:01	SSO SBT	
3808	*02	*30	*15	*18	*02	*16		*30:01	*15:03:01G		*02:10	*16:01		
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251							*02:01	*30:01	*15:03	*18:01	*02:10	*16:01	NGS	
5133							*02:01:01:01	*30:01:01:01	*15:03:01:02	*18:01:01:51	*02:10:01:01	*16:01:01:01	NGS	
5462	*02	*30	*15	*18	*02	*16	*02:01	*30:01	*15:03	*18:01P	*02:10	*16:01	SSO	
6649	*02	*30	*15	*18									SSO	
8001							*02:01	*30:01	*15:03	*18:01	*02:10	*16:01		
8043	*02	*30	*15	*18	*02	*16	*02:01	*30:01	*15:03	*18:01	*02:10	*16:01	SSP SSO	
8058	*02	*30	*78	*18									OTHER	
8103	*02	*30	*15	*18	*02	*16							SSO	
8119	*02	*30	*15	*18	*02	*16							SSP RT-PCR	B*15:03

**Table 18a: Individual laboratory results for Cell #1684 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*07	*15			*01	*02	*02	*06					SSP SSO SBT RT-PCR	
747	NT												SSP SSO NGS	
771	*07	*15			*01	*02	*02	*06			*04	*18	SSP SSO NGS	
774	*07	*15	4*01	5*01	*01	*02	*02	*06			*04(DP401)	*18	SSP SSO	
3545	*07	*15											SSO SBT	
3808	*07	*15	NT	NT	*01	*02	*02	*06	*01	*01	*04(DP401)	*18		
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
5462	*07	*15	4*01	5*01	*01	*02	*02	*06	*01	*01	NT	NT	SSO	
8103	*07	*15			*01	*01	*02	*06	*01	*01	*04	*18	SSO	
8119	*07	*15	4*01	5*01	*01	*02	*02	*06			*04(DP401)	*18	SSP RT-PCR	

**Table 18b: Individual laboratory results for Cell #1684 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*07:01	*15:03					*02:02	*06:02					SSP SSO SBT RT-PCR	
747	NT												SSP SSO NGS	
771	*07:01	*15:03					*02:02	*06:02			*04:01	*18:01	SSP SSO NGS	
774	*07:01	*15:03	4*01:01	5*01:01	*01:02	*02:01	*02:02	*06:02			*04:01	*18:01	SSP SSO	DRB1*07:31 DRB5*01:16
3545	*07:01	*15:03											SSO SBT	
3808		*15:03			*01:02	*02:01	*02:02		*01:03	*01:03	*04:01	*18:01		
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251	*07:01:01G	*15:03:01G	4*01:01	5*01:01:01G	*01:02	*02:01	*02:01:01G	*06:02:01G	*01:03:01G	*01:03:01G	*04:01	*18:01	NGS	
5133	*07:01:01	*15:03:01	4*01:01:01	5*01:01:01	*01:02:01	*02:01:01	*02:02:01	*06:02:01	*01:03:01	*01:33	*04:01:01	*18:01:01	NGS	
5462	*07:01	*15:03P	4*01:01	5*01:01	*01:02	*02:01	*02:02	*06:02	*01:03	*01:33	*04:01	*18:01	SSO	DRB1*15:185
8001	*07:01	*15:03	4*01:01	5*01:01	*01:02	*02:01	*02:02	*06:02			*04:01	*18:01		
8119	NT												SSP RT-PCR	