

Report of the 316th B-cell line Exchange

APRIL 28, 2025

B-cell Lines 631 - 633

The results for B-cell Line Exchange #316 are summarized in Tables 1 - 3 and individual laboratory results reported for each sample are listed in Tables 4 - 9.

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://network.nmdp.org/services-support/bioinformatics-immunobiology/haplotype-frequencies>.

Ter-631. The following is the consensus type for this sample from a donor of unknown ethnicity:

HLA-A		HLA-B		HLA-C	
*11:02	*24:02	*13:01	*81:02	*03:04	*08:22

DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1	
*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01	*03:01	*02:02	*02:02	*05:01	*05:01

One likely association present in this cell is A*24:02-B*13:01-C*03:04-DRB1*12:02. This association is observed exclusively in Asian populations, with HF = 0.00313. The other likely association present may then be A*11:02-B*81:02-C*08:22-DRB1*12:01.

This cell was previously examined for class I as extract 417 (2008). In this present study, the assignment of B*81:02 improved, with 96% of labs reporting B*81:02 compared to only 34% in 2008. In addition, the subtype for C*08 was updated. In 2008, 74% of labs assigned C*08:01 as the subtype. In this present retyping, C*08:22 (96%) was assigned.

Ter-632. The following is the consensus type for this sample from a donor of unknown ethnicity:

HLA-A		HLA-B		HLA-C	
*01:01	*74:01	*15:03	*82:01	*02:10	*03:02

DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1	
*03:01	*11:01	3*02:02	3*02:02	*01:02	*01:05	*05:01	*06:02	*02:01	*03	*17:01	*40:01

Likely associations present in this cell are A*01:01-B*82:01-DRB1*11:01 and A*74:01-B15:03-DRB1*03:01. Each are observed in African American populations, with respective HF = 0.00042 and 0.00060.

This cell was examined previously in the Exchange as Ter 549 (2018), extract 540 (2012), and extract 400 (2007). In 2018, one lab observed the presence of a possible new DPA1 allele, noting “the new DPA1 allele has a T->C substitution resulting in an M->T amino acid change in codon -31.2 (start codon) in exon 1, based on closest reference: DPA1*03:01:01” (1). In this present retyping, the new allele, DPA1*03:05:01Q, was assigned by 67%. DPA1*03:01:01G was assigned by 19%. As consensus for the DPA1*03 subtype was < 90%, it was not graded.

Ter-633. The following is the reported consensus type for this sample from Caucasian donor:

HLA-A		HLA-B		HLA-C	
*02:01	*29:02	*18:01	*44:03	*07:01	*16:01

DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1	
*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03	*01:03	*02:01	*04:02

One likely association present in this cell is A*29:02-B*44:03-C*16:01-DRB1*07:01, observed commonly in Caucasian populations, with HF = 0.01832. The other likely association may then be A*02:01-B*18:01-C*07:01-DRB1*11:08. The A*02:01-B*18:01-C*07:01 association in this cell is observed in Caucasians, with HF = 0.00834.

This cell is JL, one of the reference cells for DRB1*11:08:01. It was examined in the workshops as IHW9428 and in the Exchange as Ter 518 (2015), Ter 386 (2007), and Ter 316 (2003). In this present study, DRB1*11:08 was assigned by 100%, with 10 labs assigning DRB1*11:08:01. In 2015, 5 labs noted this cell possibly carried a new DPB1*02:01:02 allele (2). This new allele, DPB1*02:01:25, was reported by 7 labs in this present study.

Reference:

1. Locke A, Gjertson D, et al. Report of the 404th Cell Exchange. May 9, 2018,
2. Locke A, Gjertson D, et al. Report of the 388th Cell Exchange. October 7, 2015.

Note: For Ter 631 - Ter 633, DPA1 and DPB1 were not graded at low resolution, as there were < 10 labs reporting.

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Table 1: Summary of the 316th B-cell Line Exchange

Ter-631												
DNA Typing - class II	<u>26 labs High; 17 labs Low-DRB1</u>	%(n)	<u>21 labs High; 10 labs Low-DRB3/4/5</u>	%(n)	<u>21 labs High; 14 labs Low-DQA1</u>	%(n)	<u>26 labs High; 16 labs Low-DQB1</u>	%(n)	<u>20 labs High; 9 labs Low-DPA1</u>	%(n)	<u>26 labs High; 8 labs Low-DPB1</u>	%(n)
	DRB1*12:01:01	23(6)	DRB3*01:01:02	19(4)	DQA1*05:05:01	33(7)	DQB1*03:01:01	19(15)	DPA1*02:02:02G	5 (1)	DPB1*05:01:01	23(6)
	DRB1*12:01:01G	11(3)	DRB3*01:01:02G	9 (2)	DQA1*05:05	67(14)	DQB1*03:01:01G	15(4)	DPA1*02:02P	5 (1)	DPB1*05:01:01G	19(5)
	DRB1*12:01P	8 (2)	DRB3*01:01P	14(3)	DQA1*05	100(14)	DQB1*03:01P	4 (1)	DPA1*02:02	90(18)	DPB1*05:01P	12(3)
	DRB1*12:01	58(15)	DRB3*01:01	57(12)			DQB1*03:01	62(16)	DPA1*02	100(9)	DPB1*05:01	46(12)
	DRB1*12	100(17)	DRB3*01	100(10)			DQB1*03(DQ7)	56(9)			DPB1*05	100(8)
							DQB1*03	44(7)				
	<u>26 labs High-DRB1</u>	%(n)	<u>21 labs High; 10 labs Low-DRB3/4/5</u>	%(n)	<u>21 labs High; 14 labs Low-DQA1</u>	%(n)						
	DRB1*12:02:01	23(6)	DRB3*03:01:03	28(6)	DQA1*06:01:01	33(7)						
	DRB1*12:02:01G	8 (2)	DRB3*03:01:01G	5 (1)	DQA1*06:01	67(14)						
	DRB1*12:02P	11(3)	DRB3*03:01	67(14)	DQA1*06	93(13)						
	DRB1*12:02	58(15)	DRB3*03	90(9)	<i>DQA1*04</i>	7 (1)						
			<i>DRB3*01</i>	10(1)								
DNA Typing - class I	<u>25 labs High; 18 labs Low- A</u>	%(n)	<u>25 labs High; 18 labs Low- B</u>	%(n)	<u>25 labs High; 17 labs Low- C</u>	%(n)						
	A*11:02:01:01	8 (2)	B*13:01:01	36(9)	C*03:04:01:02	4 (1)						
	A*11:02:01	24(6)	B*13:01P	4 (1)	C*03:04:01	28(7)						
	A*11:02:01G	4 (1)	B*13:01	60(15)	C*03:04:01G	4 (1)						
	A*11:02P	4 (1)	B*13	100(18)	C*03:04P	4 (1)						
	A*11:02	60(15)			C*03:04	60(15)						
	A*11	100(18)			C*03(Cw10)	53(9)						
					C*03	47(8)						
	<u>25 labs High; 18 labs Low- A</u>	%(n)	<u>25 labs High; 18 labs Low- B</u>	%(n)	<u>25 labs High; 17 labs Low- C</u>	%(n)						
	A*24:02:01:01	4 (1)	B*81:02:01	36(9)	C*08:22:01:01	16(4)						
	A*24:02:01	28(7)	B*81:01P	4 (1)	C*08:22:01	20(5)						
	A*24:02:01G	4 (1)	B*81:02	60(15)	C*08:01P	4 (1)						
	A*24:02P	4 (1)	B*81	100(18)	C*08:22	60(15)						
	A*24:02	60(15)			C*08	100(17)						
	A*24	100(18)										

Table 2: Summary of the 316th B-cell Line Exchange

Ter-632

DNA Typing - class II	26 labs High; 17 labs Low-DRB1	%(n)	21 labs High; 11 labs Low-DRB3/4/5	%(n)	21 labs High; 15 labs Low-DQA1	%(n)	26 labs High; 16 labs Low-DQB1	%(n)	21 labs High; 9 labs Low-DPA1	%(n)	26 labs High; 8 labs Low-DPB1	%(n)
	DRB1*03:01:01	12(3)	DRB3*02:02:01	19(4)	DQA1*01:02:01	33(7)	DQB1*05:01:01:02	4 (1)	DPA1*02:01:01:03	5 (1)	DPB1*17:01:01	34(9)
	DRB1*03:01:01G	12(3)	DRB3*02:02:01G	10(2)	DQA1*01:02	67(14)	DQB1*05:01:01	19(5)	DPA1*02:01:01	28(6)	DPB1*17:01:01G	8 (2)
	DRB1*03:01P	11(3)	DRB3*02:02P	10(2)	DQA1*01	100(15)	DQB1*05:01:01G	12(3)	DPA1*02:01:01G	5 (1)	DPB1*17:01P	8 (2)
	DRB1*03:01	65(17)	DRB3*02:02	61(13)			DQB1*05:01P	4 (1)	DPA1*02:01	62(13)	DPB1*17:01	50(13)
	DRB1*03(DR17)	47(8)	DRB3*02	91(10)			DQB1*05:01	61(16)	DPA1*02	100(9)	DPB1*17	100(8)
	DRB1*03	53(9)	DRB3*PRESENT	9 (1)			DQB1*05	100(16)				
	26 labs High; 17 labs Low-DRB1	%(n)			21 labs High-DQA1	%(n)	26 labs High; 16 labs Low-DQB1	%(n)	21 labs High; 9 labs Low-DPA1	%(n)	26 labs High; 8 labs Low-DPB1	%(n)
	DRB1*11:01:02	8 (2)			DQA1*01:05:01	33(7)	DQB1*06:02:01	23(6)	DPA1*03:05:01Q	67(14)	DPB1*40:01:01	42(11)
	DRB1*11:01:01	4 (1)			DQA1*01:01:01G	5 (1)	DQB1*06:02:01G	12(3)	DPA1*03:01:01G	19(4)	DPB1*40:01	58(15)
	DRB1*11:01:02G	8 (2)			DQA1*01:05	62(13)	DQB1*06:02P	4 (1)	DPA1*03:01	14(3)	DPB1*40	100(8)
	DRB1*11:01P	4 (1)					DQB1*06:02	61(16)	DPA1*03	100(9)		
	DRB1*11:01	76(20)					DQB1*06	94(15)				
	DRB1*11	100(17)					<i>DQB1*03</i>	6 (1)				

DNA Typing - class I	25 labs High; 18 labs Low- A	%(n)	25 labs High; 18 labs Low- B	%(n)	25 labs High; 17 labs Low- C	%(n)						
	A*01:01:01:11	8 (2)	B*15:03:01:02	4 (1)	C*02:10:01:01	8 (2)						
	A*01:01:01	24(6)	B*15:03:01	28(7)	C*02:10:01	28(7)						
	A*01:01:01G	4 (1)	B*15:03:01G	4 (1)	C*02:10	64(16)						
	A*01:01P	4 (1)	B*15:03P	4 (1)	C*02	100(17)						
	A*01:01	60(15)	B*15:03	60(15)								
	A*01	100(18)	B*15(B72)	56(10)								
			B*15	44(8)								
	25 labs High- A	%(n)	25 labs High; 18 labs Low- B	%(n)	25 labs High; 17 labs Low- C	%(n)						
	A*74:01:01:01	8 (2)	B*82:01:01:01	16(4)	C*03:02:02:17	4 (1)						
	A*74:01:01	28(7)	B*82:01:01	20(5)	C*03:02:02	32(8)						
	A*74:01P	4 (1)	B*82:01	64(16)	C*03:02P	4 (1)						
	A*74:01	60(15)	B*82	100(18)	C*03:02	60(15)						
	A*74	100(18)			C*03(Cw10)	53(9)						
					C*03	47(8)						

Table 3: Summary of the 316th B-cell Line Exchange

Ter-633																		
DNA Typing - class II	<u>26 labs High; 17 labs Low-DRB1</u>		%(n)	<u>21 labs High; 10 labs Low-DRB3/4/5</u>		%(n)	<u>21 labs High; 15 labs Low-DQA1</u>		%(n)	<u>26 labs High; 16 labs Low-DQB1</u>		%(n)	<u>21 labs High; 9 labs Low-DPA1</u>		%(n)	<u>26 labs High; 8 labs Low-DPB1</u>		%(n)
	DRB1*07:01:01	23(6)		DRB4*01:01:01	24(5)		DQA1*02:01:01	33(7)		DQB1*02:02:01	23(6)		DPA1*01:03:01	28(6)		DPB1*02:01:25	27(7)	
	DRB1*07:01:01G	11(3)		DRB4*01:01:01G	9 (2)		DQA1*02:01	67(14)		DQB1*02:01:01G	12(3)		DPA1*01:03:01G	5 (1)		DPB1*02:01:02	4 (1)	
	DRB1*07:01P	8 (2)		DRB4*01:01P	9 (2)		DQA1*02	93(14)		DQB1*02:01P	4 (1)		DPA1*01:03P	5 (1)		DPB1*02:01:02G	15(4)	
	DRB1*07:01	58(15)		DRB4*01:01	57(12)		<i>DQA1*04</i>	7 (1)		DQB1*02:02	61(16)		DPA1*01:03	62(13)		DPB1*02:01P	8 (2)	
	DRB1*07	94(16)		DRB4*01	100(10)					DQB1*02	94(15)		DPA1*01	100(9)		DPB1*02:01	46(12)	
	<i>DRB1*12</i>	6 (1)								<i>DQB1*06</i>	6 (1)					DPB1*02(DP201)	38(3)	
																DPB1*02	62(5)	
DNA Typing - class I	<u>26 labs High; 16 labs Low-DRB1</u>		%(n)	<u>21 labs High; 10 labs Low-DRB3/4/5</u>		%(n)	<u>21 labs High; 15 labs Low-DQA1</u>		%(n)	<u>26 labs High; 16 labs Low-DQB1</u>		%(n)				<u>26 labs High; 8 labs Low-DPB1</u>		%(n)
	DRB1*11:08:01	38(10)		DRB3*02:02:01	14(3)		DQA1*05:05:01	33(7)		DQB1*03:01:01	23(6)				DPB1*04:02:01	19(5)		
	DRB1*11:08	62(16)		DRB3*02:02:01G	10(2)		DQA1*05:01:01G	5 (1)		DQB1*03:01:01G	12(3)				DPB1*04:02:01G	19(5)		
	DRB1*11	100(16)		DRB3*02:02P	19(4)		DQA1*05:05	62(13)		DQB1*03:01P	4 (1)				DPB1*04:02P	12(3)		
				DRB3*02:02	57(12)		DQA1*05	100(15)		DQB1*03:01	61(16)				DPB1*04:02	50(13)		
				DRB3*02	100(10)					DQB1*03(DQ7)	56(9)				DPB1*04(DP402)	100(4)		
										DQB1*03	44(7)				DPB1*04	100(4)		

Table 4a: Individual laboratory results for B-cell #631- Class II

	Low resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
725	*12		3*01	3*03	*05	*06	*03(DQ7)	*03(DQ7)					SSO	
747	*12	*12	3*01	3*03	*05	*06	*03(DQ7)	*03(DQ7)	*02	*02	*05	*05	SSP SSO NGS RT-PCR	
771	*12	*12			*05	*06	*03	*03					SSO NGS	
792	*12	*12	3*01	3*03	*05	*06	*03(DQ7)	*03(DQ7)	*02	*02	*05	*05	SSO NGS	
793	*12	*12	3*01	3*03	*05	*06	*03(DQ7)	*03(DQ7)	*02	*02			RT-PCR	
794	*12		3*01	3*03	*05	*06	*03		*02		*05		SSO NGS RT-PCR	
2400	*12		3*01	3*03	*05	*06	*03(DQ7)		*02		*05		SSO NGS	
2847	*12	*12											SSO	
3519	*12		3*01	3*03	*05	*06	*03(DQ7)		*02		*05		SSP NGS	
3966													SSP SSO RT-PCR	
5130	*12	*12	3*01	3*01	*05	*06	*03	*03	*02	*02	*05	*05	NGS RT-PCR	
5214	*12	*12	3*01	3*03	*05	*06	*03(DQ7)	*03(DQ7)	*02	*02	*05	*05	RT-PCR	
6649	*12	*12					*03(DQ7)	*03(DQ7)					SSO SBT	
8029	*12	*12					*03	*03						
8043	*12	*12			*05	*06	*03						SSP SSO NGS	
8058	*12		NT	NT	*05	*04	*03	*06	NT	NT	NT	NT		
8068	*12	*12			*05	*06	*03	*03					SSO	
8123	*12	*12	3*01	3*03	*05	*06	*03(DQ7)	*03(DQ7)	*02	*02	*05	*05	RT-PCR	

Table 4b: Individual laboratory results for B-cell #631 - Class II														
	High resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01	*03:01	*02:02	*02:02	*05:01	*05:01	NGS	
747	*12:01:01	*12:02:01	3*01:01:02	3*03:01:03	*05:05:01	*06:01:01	*03:01:01	*03:01:01	*02:02	*02:02:02	*05:01:01	*05:01:01	SSP SSO NGS RT-PCR	DRB3*01:62:01 DQB1*03:276N DQB1*03:454
762	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01		*02:02		*05:01		NGS	
771	*12:01	*12:02					*03:01	*03:01			*05:01	*05:01	SSO NGS	
792	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01	*03:01	*02:02	*02:02	*05:01	*05:01	SSO NGS	
793											*05:01P	*05:01P	RT-PCR	DPB1*38:01
794	*12:01:01	*12:02:01	3*01:01	3*03:01	*05:05:01	*06:01:01	*03:01:01		*02:02		*05:01:01		SSO NGS RT-PCR	
2344	*12:01:01G	*12:02:01G					*03:01:01G	*03:01:01G			*05:01:01G	*05:01:01G	NGS	
2400	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01		*02:02		*05:01:01G		SSO NGS	DRB1*12:10 DRB3*01:62 DQB1*03:276N
3135	*12:01P	*12:02P	3*01:01:02G	3*03:01:01G	*05:05	*06:01	*03:01P	*03:01P	*02:02	*02:02	*05:01P	*05:01P		DQA1*05:09 DPA1*02:07 DPA1*02:07
3511	*12:01	*12:02	3*01:01P	3*03:01	*05:05	*06:01	*03:01		*02:02		*05:01		NGS	
3519	*12:01P	*12:02P	3*01:01P	3*03:01	*05:05	*06:01	*03:01		NT		*05:01P		SSP NGS	DRB1*12:01 DRB1*12:02 DRB1*12:10 DRB3*01:01 DRB3*01:62 DPB1*05:01 DPB1*1273:01
3753	*12:01:01G	*12:02:01	3*01:01:02G	3*03:01:03	*05:05:01	*06:01:01	*03:01:01G	*03:01:01G	*02:02	*02:02:02	*05:01:01G	*05:01:01G	NGS	
3966	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01	*03:01	*02:02	*02:02	*05:01	*05:01	SSP SSO RT-PCR	DPA1*02:07 DRB1*12:10 DQA1*05:09
4337	*12:01	*12:02					*03:01	*03:01			*05:01	*05:01	SSP SBT NGS	
5130	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01	*03:01	*02:02	*02:02	*05:01:01G	*05:01:01G	NGS RT-PCR	DRB1*12:10
5133	*12:01:01	*12:02:01	3*01:01:02	3*03:01:03	*05:05:01	*06:01:01	*03:01:01		*02:02		*05:01:01		NGS	DQB1*03:276N
5451	*12:01:01	*12:02:01	3*01:01:02	3*03:01:03	*05:05:01	*06:01:01	*03:01:01		*02:02		*05:01:01		SBT NGS	
5462	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01		*02:02		*05:01		NGS	
5488	*12:01:01	*12:02:01	3*01:01:02	3*03:01:03	*05:05:01	*06:01:01	*03:01:01G		*02:02		*05:01:01		SSO NGS	DQB1*03:01:01 DQB1*03:276N
6649	*12:01	*12:02					*03:01	*03:01					SSO SBT	
8001	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01		*02:02		*05:01		NGS	DQB1*03:276N
8029	*12:01:01G	*12:02:01G					*03:01:01G	*03:01:01G			*05:01:01G	*05:01:01G		
8038	*12:01:01	*12:02P	3*01:01P	3*03:01:03	*05:05:01	*06:01:01	*03:01:01	*03:01:01	*02:02P	*02:02P	*05:01:01	*05:01:01	NGS	
8043	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01		*02:02		*05:01		SSP SSO NGS	

Table 4b: Individual laboratory results for B-cell #631 - Class II														
		High resolution												
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
8122	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01		*02:02		*05:01		NGS	DPB1*1273:01 DQB1*03:454 DQB1*03:276N DRB3*01:62
8137	*12:01	*12:02	3*01:01	3*03:01	*05:05	*06:01	*03:01	*03:01	*02:02:02G	*02:02:02G	*05:01	*05:01	SBT	

Table 5: Individual laboratory results for B-cell #631 - Class I

	Low resolution						High resolution							
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C		METHOD	Other Alleles
230							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	NGS	
725	*11	*24	*13	*81	*03(Cw10)	*08							SSO	
747	*11	*24	*13	*81	*03(Cw10)	*08	*11:02:01	*24:02:01	*13:01:01	*81:02:01	*03:04:01	*08:22:01	SSP SSO NGS	
762							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	RT-PCR	
771	*11	*24	*13	*81	*03	*08	*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	NGS	
792	*11	*24	*13	*81	*03(Cw10)	*08	*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	SSO NGS	
793	*11	*24	*13	*81	*03(Cw10)	*08							RT-PCR	
794	*11	*24	*13	*81	*03	*08	*11:02:01	*24:02:01	*13:01:01	*81:02:01	*03:04:01	*08:22:01	SSO NGS	
2344							*11:02:01	*24:02:01	*13:01:01	*81:02:01	*03:04:01	*08:22:01:01	RT-PCR	
2400	*11	*24	*13	*81	*03(Cw10)	*08	*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	NGS	
2847	*11	*24	*13	*81	*03	*08							SSO NGS	
3135													SSO	
3511							*11:02P	*24:02P	*13:01P	*81:01P	*03:04P	*08:01P		
3519	*11	*24	*13	*81	*03(Cw10)	*08	*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	NGS	
3753							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	SSP NGS	
3966	*11	*24	*13	*81	*03(Cw10)	*08	*11:02:01	*24:02:01	*13:01:01	*81:02:01	*03:04:01	*08:22:01:01	NGS	
4337													SSP SSO	
5130	*11	*24	*13	*81	*03	*08							RT-PCR	
5133							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	SSP SBT NGS	
5214	*11	*24	*13	*81	*03(Cw10)	*08	*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	NGS RT-PCR	
5451							*11:02:01:01	*24:02:01:01	*13:01:01	*81:02:01	*03:04:01:02	*08:22:01:01	NGS	
5462													RT-PCR	
5488							*11:02:01	*24:02:01	*13:01:01	*81:02:01	*03:04:01	*08:22:01	SBT NGS	
6649	*11	*24	*13	*81			*11:02:01	*24:02:01	*13:01:01	*81:02:01	*03:04:01	*08:22:01	NGS	
8001							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	SSO NGS	
8029	*11	*24	*13	*81	*03	*08	*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	SSO SBT	
8038							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	NGS	
8043	*11	*24	*13	*81	*03	*08	*11:02:01G	*24:02:01G	*13:01:01	*81:02:01	*03:04:01G	*08:22:01		
8058	*11	*24	*13	*81	*03	*08	*11:02:01:01	*24:02:01	*13:01:01	*81:02:01	*03:04:01	*08:22:01:01	NGS	
8068	*11	*24	*13	*81	*03	*08							SSP SSO NGS	
8122														
8123	*11	*24	*13	*81	*03	*08							SSO	
8137							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	NGS	
													RT-PCR	
							*11:02	*24:02	*13:01	*81:02	*03:04	*08:22	SBT	

Table 6a: Individual laboratory results for B-cell #632- Class II

	Low resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
725	*03(DR17)	*11	3*02	3*02	*01	*01	*05	*06					SSO	
747	*03(DR17)	*11	3*02	3*02	*01	*01	*05	*06	*02	*03	*17	*40	SSP SSO NGS RT-PCR	
771	*03	*11			*01	*01	*05	*06					SSO NGS	
792	*03(DR17)	*11	3*02	3*02	*01	*01	*05	*06	*02	*03	*17	*40	SSO NGS	
793	*03(DR17)	*11	3*02	3*02	*01	*01	*05	*06	*02	*03			RT-PCR	
794	*03	*11	3*02		*01		*05	*06	*02	*03	*17	*40	SSO NGS RT-PCR	
2400	*03(DR17)	*11	3*02		*01		*05	*06	*02	*03	*17	*40	SSO NGS	
2847	*03	*11											SSO	
3519	*03(DR17)	*11	3*02		*01		*05	*06	*02	*03	*17	*40	SSP NGS	
3966													SSP SSO RT-PCR	
5130	*03	*11	3*02	3*02	*01	*01	*05	*06	*02	*03	*17	*40	NGS RT-PCR	
5214	*03(DR17)	*11	3*02		*01	*01	*05	*06	*02	*03	*17	*40	RT-PCR	
6649	*03	*11					*05	*06					SSO SBT	
8029	*03	*11			*01	*01	*05	*06						
8043	*03	*11	3*PRESENT		*01	*01	*05	*06					SSP SSO NGS	
8058	*03	*11	NT	NT	*01	NT	*05	*03	NT	NT	NT	NT		
8068	*03	*11			*01	*01	*05	*06					SSO	
8123	*03(DR17)	*11	3*02	3*02	*01	*01	*05	*06	*02	*03	*17	*40	RT-PCR	

Table 6b: Individual laboratory results for B-cell #632 - Class II

	High resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*03:01	*11:01	3*02:02	3*02:02	*01:02	*01:05	*05:01	*06:02	*02:01	*03:01:01G	*17:01	*40:01	NGS	
747	*03:01:01	*11:01:01	3*02:02:01	3*02:02:01	*01:02:01	*01:05:01	*05:01:01	*06:02:01	*02:01:01	*03:05:01Q	*17:01:01	*40:01:01	SSP SSO NGS	DRB1*03:01:08
762	*03:01	*11:01	3*02:02		*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01	*40:01	RT-PCR	
771	*03:01	*11:01					*05:01	*06:02			*17:01	*40:01	NGS	
792	*03:01	*11:01	3*02:02	3*02:02	*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01	*40:01	SSO NGS	DRB1*03:147
793											*17:01P	*40:01	SSO NGS	
													RT-PCR	
794	*03:01	*11:01	3*02:02		*01:02:01	*01:05:01	*05:01:01	*06:02:01	*02:01:01	*03:05:01Q	*17:01:01	*40:01:01	SSO NGS	
2344	*03:01:01G	*11:01:02G					*05:01:01G	*06:02:01G			*17:01:01G	*40:01:01	RT-PCR	
2400	*03:01	*11:01	3*02:02		*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01:01G	*40:01:01	NGS	
3135	*03:01P	*11:01P	3*02:02:01G		*01:02	*01:01:01G	*05:01P	*06:02P	*02:01	*03:01	*17:01P	*40:01	SSO NGS	DQB1*05:263
3511	*03:01	*11:01	3*02:02		*01:02	*01:05	*05:01	*06:02	*02:01	*03:01:01G	*17:01	*40:01	NGS	
3519	*03:01P	*11:01	3*02:02P		*01:02	*01:05	*05:01	*06:02	*02:01	*03:01	*17:01	*40:01	SSP NGS	DRB1*03:01 DRB1*03:147 DRB3*02:02
3753	*03:01	*11:01	3*02:02:01G	3*02:02:01G	*01:02:01	*01:05:01	*05:01:01G	*06:02:01G	*02:01:01	*03:01:01G	*17:01:01	*40:01:01	NGS	
3966	*03:01	*11:01	3*02:02	3*02:02	*01:02	*01:05	*05:01	*06:02	*02:01	*03:01	*17:01	*40:01	SSP SSO	
4337	*03:01	*11:01					*05:01	*06:02			*17:01	*40:01	RT-PCR	
5130	*03:01	*11:01	3*02:02	3*02:02	*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01:01	*40:01:01	SSP SBT NGS	
5133	*03:01:01	*11:01:02	3*02:02:01		*01:02:01	*01:05:01	*05:01:01	*06:02:01	*02:01:01	*03:05:01Q	*17:01:01	*40:01:01	NGS RT-PCR	DRB1*03:147
5451	*03:01:01	*11:01:02	3*02:02:01		*01:02:01	*01:05:01	*05:01:01	*06:02:01	*02:01:01	*03:05:01Q	*17:01:01	*40:01:01	NGS	DRB1*03:01:08 DRB1*11:01:31
5462	*03:01	*11:01	3*02:02		*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01	*40:01	SBT NGS	
5488	*03:01:01G	*11:01:02G	3*02:02:01		*01:02:01	*01:05:01	*05:01:01	*06:02:01	*02:01:01	*03:05:01Q	*17:01:01	*40:01:01	NGS	DRB1*03:01:01 DRB1*03:01:08 DRB1*11:01:02 DRB1*11:01:31
6649	*03:01	*11:01					*05:01	*06:02					SSO NGS	
8001	*03:01	*11:01	3*02:02		*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01	*40:01	SSO SBT	
8029	*03:01:01G	*11:01					*05:01:01G	*06:02:01G			*17:01:01	*40:01:01	NGS	
8038	*03:01P	*11:01	3*02:02P	NP	*01:02:01	*01:05:01	*05:01:01:02	*06:02:01	*02:01:01:03	*03:05:01Q	*17:01:01	*40:01:01	NGS	
8043	*03:01	*11:01	3*02:02		*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01	*40:01	SSP SSO NGS	
8122	*03:01	*11:01	3*02:02		*01:02	*01:05	*05:01	*06:02	*02:01	*03:05:01Q	*17:01	*40:01	NGS	
8137	*03:01	*11:01	3*02:02	3*02:02	*01:02	*01:05	*05:01	*06:02	*02:01:01G	*03:01:01G	*17:01	*40:01	SBT	

Table 7: Individual laboratory results for B-cell #632 - Class I

	Low resolution						High resolution							
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C		METHOD	Other Alleles
230							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	NGS	
725	*01	*74	*15(B72)	*82	*02	*03(Cw10)							SSO	
													SSP SSO NGS	
747	*01	*74	*15(B72)	*82	*02	*03(Cw10)	*01:01:01	*74:01:01	*15:03:01	*82:01:01	*02:10:01	*03:02:02	RT-PCR	
762							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	NGS	
771	*01	*74	*15	*82	*02	*03	*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SSO NGS	
792	*01	*74	*15(B72)	*82	*02	*03(Cw10)	*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SSO NGS	
793	*01	*74	*15(B72)	*82	*02	*03(Cw10)							RT-PCR	
													SSO NGS	
794	*01	*74	*15	*82	*02	*03	*01:01:01	*74:01:01	*15:03:01	*82:01:01	*02:10:01	*03:02:02	RT-PCR	
2344							*01:01:01	*74:01:01	*15:03:01	*82:01:01:01	*02:10:01	*03:02:02	NGS	
2400	*01	*74	*15(B72)	*82	*02	*03(Cw10)	*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SSO NGS	
2847	*01	*74	*15	*82	*02	*03							SSO	
3135							*01:01P	*74:01P	*15:03P	*82:01	*02:10	*03:02P		
3511							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	NGS	
3519	*01	*74	*15(B72)	*82	*02	*03(Cw10)	*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SSP NGS	
3753							*01:01:01	*74:01:01	*15:03:01	*82:01:01:01	*02:10:01	*03:02:02	NGS	
													SSP SSO	
3966	*01	*74	*15(B72)	*82	*02	*03(Cw10)							RT-PCR	
4337							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SSP SBT NGS	
5130	*01	*74	*15	*82	*02	*03	*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	NGS RT-PCR	
5133							*01:01:01:11	*74:01:01:01	*15:03:01:02	*82:01:01:01	*02:10:01:01	*03:02:02:17	NGS	
5214	*01	*74	*15(B72)	*82	*02	*03(Cw10)							RT-PCR	
5451							*01:01:01	*74:01:01	*15:03:01	*82:01:01	*02:10:01	*03:02:02	SBT NGS	
5462							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	NGS	
5488							*01:01:01	*74:01:01	*15:03:01	*82:01:01	*02:10:01	*03:02:02	SSO NGS	
6649	*01	*74	*15(B72)	*82			*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SSO SBT	
8001							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	NGS	
8029	*01	*74	*15	*82	*02	*03	*01:01:01G	*74:01:01	*15:03:01G	*82:01:01	*02:10:01	*03:02:02		
8038							*01:01:01:11	*74:01:01:01	*15:03:01	*82:01:01:01	*02:10:01:01	*03:02:02	NGS	
8043	*01	*74	*15	*82	*02	*03	*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SSP SSO NGS	
8058	*01	*74	*15	*82	*02	*03								
8068	*01	*74	*15	*82	*02	*03							SSO	
8122							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	NGS	
8123	*01	*74	*15(B72)	*82	*02	*03(Cw10)							RT-PCR	
8137							*01:01	*74:01	*15:03	*82:01	*02:10	*03:02	SBT	

Table 8a: Individual laboratory results for B-cell #633- Class II

	Low resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
725	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)					SSO	
747	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)	*01	*01	*02	*04	SSP SSO NGS RT-PCR	
771	*07	*11			*02	*05	*02	*03					SSO NGS	
792	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)	*01	*01	*02	*04	SSO NGS	
793	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)	*01	*01			RT-PCR	
794	*07	*11	3*02	4*01	*02	*05	*02	*03	*01		*02	*04	SSO NGS RT-PCR	
2400	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)	*01		*02(DP201)	*04(DP402)	SSO NGS	
2847	*07	*11											SSO	
3519	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)	*01		*02	*04(DP402)	SSP NGS	
3966													SSP SSO RT-PCR	
5130	*07	*11	3*02	4*01	*02	*05	*02	*03	*01	*01	*02	*04	NGS RT-PCR	
5214	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)	*01	*01	*02(DP201)	*04(DP402)	RT-PCR	
5488													SSO NGS	
6649	*07	*11					*02	*03(DQ7)					SSO SBT	
8029	*07	*11			*02	*05	*02	*03						
8043	*07	*11			*02	*05	*02	*03					SSP SSO NGS	
8058	*12	NT	NT	NT	*04	*05	*06	*03	NT	NT	NT	NT		
8068	*07	*11			*02	*05	*02	*03					SSO	
8123	*07	*11	3*02	4*01	*02	*05	*02	*03(DQ7)	*01	*01	*02(DP201)	*04(DP402)	RT-PCR	

Table 8b: Individual laboratory results for B-cell #633 - Class II

	High resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03	*01:03	*02:01	*04:02	NGS	
747	*07:01:01	*11:08:01	3*02:02:01	4*01:01:01	*02:01:01	*05:05:01	*02:02:01	*03:01:01	*01:03:01	*01:03:01	*02:01:02	*04:02	SSP SSO NGS RT-PCR	DQB1*03:454
762	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01	*04:02	NGS	
771	*07:01	*11:08					*02:02	*03:01			*02:01	*04:02	SSO NGS	
792	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03	*01:03	*02:01	*04:02	SSO NGS	
793											*02:01P	*04:02P	RT-PCR	
794	*07:01:01	*11:08:01	3*02:02	4*01:01	*02:01:01	*05:05:01	*02:02:01	*03:01:01	*01:03:01		*02:01:25	*04:02:01	SSO NGS RT-PCR	
2344	*07:01:01G	*11:08:01					*02:01:01G	*03:01:01G			*02:01:02G	*04:02:01G	NGS	
2400	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01:02G	*04:02:01G	SSO NGS	DQB1*02:156 DQB1*03:276N DQB1*03:297 DQB1*03:419
3135	*07:01P	*11:08:01	3*02:02:01G	4*01:01:01G	*02:01	*05:01:01G	*02:01P	*03:01P	*01:03	*01:03	*02:01:25	*04:02P		
3511	*07:01	*11:08	3*02:02P	4*01:01P	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01	*04:02	NGS	
3519	*07:01P	*11:08	3*02:02P	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01P	*04:02P	SSP NGS	DRB1*07:01 DRB3*02:02 DPB1*02:01 DPB1*04:02
3753	*07:01:01G	*11:08:01	3*02:02:01G	4*01:01:01G	*02:01:01	*05:05:01	*02:01:01G	*03:01:01G	*01:03:01	*01:03:01	*02:01	*04:02:01G	NGS	
3966	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03	*01:03	*02:01	*04:02	SSP SSO RT-PCR	DQA1*05:09 DPB1*105:01
4337	*07:01	*11:08					*02:02	*03:01			*02:01:25	*04:02	SSP SBT NGS	
5130	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03	*01:03	*02:01:02G	*04:02:01G	NGS RT-PCR	
5133	*07:01:01	*11:08:01	3*02:02:01	4*01:01:01	*02:01:01	*05:05:01	*02:02:01	*03:01:01	*01:03:01		*02:01:25	*04:02:01	NGS	DRB4*03:01N
5451	*07:01:01	*11:08:01	3*02:02P	4*01:01P	*02:01:01	*05:05:01	*02:02:01	*03:01:01	*01:03:01		*02:01:25	*04:02:01	SBT NGS	
5462	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01	*04:02	NGS	
5488	*07:01:01	*11:08:01	3*02:02:01	4*01:01:01	*02:01:01	*05:05:01	*02:02:01	*03:01:01	*01:03:01		*02:01:25	*04:02:01	SSO NGS	
6649	*07:01	*11:08					*02:02	*03:01					SSO SBT	
8001	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01	*04:02	NGS	DRB4*03:01N
8029	*07:01:01G	*11:08:01					*02:01:01G	*03:01:01G			*02:01:02G	*04:02:01G		
8038	*07:01:01	*11:08:01	3*02:02P	4*01:01:01	*02:01:01	*05:05:01	*02:02:01	*03:01:01	*01:03P	*01:03P	*02:01:25	*04:02:01	NGS	
8043	*07:01	*11:08	3*02:02	4*01:01:01	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01	*04:02	SSP SSO NGS	
8122	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03		*02:01	*04:02	NGS	
8137	*07:01	*11:08	3*02:02	4*01:01	*02:01	*05:05	*02:02	*03:01	*01:03:01G	*01:03:01G	*02:01	*04:02	SBT	

Table 9: Individual laboratory results for B-cell #633 - Class I

	Low resolution						High resolution							
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C		METHOD	Other Alleles
230							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	NGS	
725	*02	*29	*18	*44	*07	*16							SSO	
747	*02	*29	*18	*44	*07	*16	*02:01:01	*29:02:01	*18:01:01	*44:03:01	*07:01:09	*16:01:01	SSP SSO NGS RT-PCR	
762							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	NGS	
771	*02	*29	*18	*44	*07	*16	*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SSO NGS	
792	*02	*29	*18	*44	*07	*16	*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SSO NGS	
793	*02	*29	*18	*44	*07	*16							RT-PCR	
794	*02	*29	*18	*44	*07	*16	*02:01:01	*29:02:01	*18:01:01	*44:03:01	*07:01:09	*16:01:01	SSO NGS RT-PCR	
2344							*02:01:01	*29:02:01	*18:01:01	*44:03:01	*07:01:09	*16:01:01	NGS	
2400	*02	*29	*18	*44	*07	*16	*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SSO NGS	
2847	*02	*29	*18	*44	*07	*16							SSO	
3135							*02:01P	*29:02P	*18:01P	*44:03P	*07:01:09	*16:01P		
3511							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	NGS	
3519	*02	*29	*18	*44	*07	*16	*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SSP NGS	
3753							*02:01:01	*29:02:01	*18:01:01	*44:03:01	*07:01	*16:01	NGS	
3966	*02	*29	*18	*44	*07	*16							SSP SSO RT-PCR	
4337							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SSP SBT NGS	
5130	*02	*29	*18	*44	*07	*16	*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	NGS RT-PCR	
5133							*02:01:01:01	*29:02:01:01	*18:01:01	*44:03:01	*07:01:09	*16:01:01:01	NGS	
5214	*02	*29	*18	*44	*07	*16							RT-PCR	
5451							*02:01:01	*29:02:01	*18:01:01	*44:03:01	*07:01:09	*16:01:01	SBT NGS	
5462							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	NGS	
5488							*02:01:01	*29:02:01	*18:01:01	*44:03:01	*07:01:09	*16:01:01	SSO NGS	
6649	*02	*29	*18	*44			*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SSO SBT	
8001							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	NGS	
8029	*02	*29	*18	*44	*07	*16	*02:01:01	*29:02:01	*18:01:01G	*44:03:01	*07:01:01G	*16:01:01		
8038							*02:01:01	*29:02:01:01	*18:01:01	*44:03:01	*07:01:09	*16:01:01	NGS	
8043	*02	*29	*18	*44	*07	*16	*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SSP SSO NGS	
8058	*11	*24	*13	*81	*03	*08								
8068	*02	*29	*18	*44	*07	*16							SSO	
8122							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	NGS	
8137							*02:01	*29:02	*18:01	*44:03	*07:01	*16:01	SBT	
8123	*02	*29	*18	*44	*07	*16							RT-PCR	