

Report of the 319th B-cell line Exchange

FEBRUARY 4, 2026

B-cell Lines 640- 642

The results for B-cell Line Exchange #319 are summarized in Tables 1 - 3 and individual laboratory results reported for each sample are listed in Tables 4 - 9. Haplotype frequencies used in this report are from the NMDP Bioinformatics website, <https://network.nmdp.org/services-support/bioinformatics-immunobiology/haplotype-frequencies>.

We would like to thank the **Welsh Blood Service, Pontyclun**, for kindly sharing the interesting cells analyzed in this study. We also thank the laboratories that performed NGS for sharing their findings and encourage other NGS laboratories to do the same.

Ter-640. The following is the consensus type for this cell from a Caucasian donor:

HLA-A	HLA-B	HLA-C
*01:01 *02:01	*08:01 *44:02	*05:01 *07:01

DRB1	DRB3/4/5	DQA1	DQB1	DPA1	DPB1
*04:04 *04:09	4*01:03 4*01:03	*03:01 *03:03	*03:01 *03:02	*01:03 *02:01	*10:01 *20:01

One likely association present in this cell is A*01:01-B*08:01-DRB1*04:04-DQB1*03:02, observed in Caucasians, with HF = 0.00173. The other likely association is A*02:01-B*44:02-DRB1*04:09-DQB1*03:01. This same association is observed in MCA0000143, a reference cell for DRB1*04:09:01:01.

This cell was previously examined as Ter 481 (2012), Ter 378 (2006), and Ter 329 (2003). In this current study, DRB1*04:09 was assigned by 100% of labs reporting at high resolution, with 10 labs assigning DRB1*04:09:01. Good agreement (> 80%) was achieved for all other allele assignments.

Ter-641. The following is the consensus type this cell from a donor of Filipino descent:

HLA-A	HLA-B	HLA-C
*24:37 *34:01	*15:21 *15:35	*04:03 *07:02

DRB1	DRB3/4/5	DQA1	DQB1	DPA1	DPB1
*04:03 *15:02	4*01:03 5*01:01	*01:02 *03:01	*03:02 *05:02	*02:02 *02:02	*01:01 *05:01

This cell is TER1132, the reference cell for A*24:37 (1). Its parents were also studied in the Exchange, with one parent examined as cell 1253 (same as cell 1198) and the other as Extract 242. Based on Exchange data, the class I haplotypes in this cell are A*24:37-B*15:35-C*07:02 and A*34:01-B*15:21-C*04:03.

This cell has been examined multiple times over the last 23 years, including as cells 1256 (2005), 1197 (2004), 1145 (2003), and 1132 (2002); as extracts 552 (2012) and 243 (2003); and as Ter 546 (2018). In this present study, A*24:37 was reported by 100% of labs reporting at high resolution. Good agreement (> 80%) was also achieved for all other allele assignments.

Ter-642. The following is the reported consensus type for this cell from a Caucasian donor.

HLA-A		HLA-B		HLA-C	
*01:01	*01:01	*08:01	*15:01	*03:03	*07:01

DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1	
*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01	*04:01

Possible class I associations in this cell are A*01:01-B*15:01-C*03:03 and A*01:01-B*08:01-C*07:01, with respective HF = 0.00183 and 0.09556.

This sample serves as the reference cell for DRB1*03:43 (2). Its primary name in the IPD-IMGT/HLA database is 49784, and it was last examined in the Exchange in 2009 as Ter 419. At that time, nine laboratories indicated the presence of a novel DRB1*03 allele most similar to DRB1*03:30.

In the present study, DRB1*03:43 was reported by 100% of laboratories performing high-resolution typing. Among the 14 laboratories reporting low-resolution results, 36% assigned DRB1*03 (DR17), while 64% assigned DRB1*03. Good agreement (> 80%) was also achieved for all other allele assignments.

1. Lebedeva TV, Huang A, Janzen M, Lau M, Yu N. Identification of novel HLA class I alleles using single allele sequencing. Tissue Antigens. 2003 Nov;62(5):433-435. DOI: 10.1034/j.1399-0039.2003.00106.x.
2. Street, J., Johnson, J., Pepperall, J., Cao, K. and Darke, C. (2010), A new HLA-DRB1 allele: DRB1*0343. Tissue Antigens, 76: 255-256. DOI: 10.1111/j.1399-0039.2010.01496.x

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Table 1: Summary of the 319th B-cell Line Exchange

Ter-640																								
DNA Typing - class II	<u>25 labs High; 15 labs Low-DRB1</u>			%(n)	<u>21 labs High; 9 labs Low-DRB3/4/5</u>			%(n)	<u>21 labs High; 13 labs Low-DQA1</u>			%(n)	<u>25 labs High; 14 labs Low-DQB1</u>			%(n)	<u>21 labs High; 8 labs Low-DPA1</u>			%(n)	<u>25 labs High; 7 labs Low-DPB1</u>			%(n)
	DRB1*04:04:01			24(6)	DRB4*01:03:01			19(4)	DQA1*03:01:01:01			5 (1)	DQB1*03:01:01			28(7)	DPA1*01:03:01			28(6)	DPB1*10:01:01:06			4 (1)
	DRB1*04:04:01G			12(3)	DRB4*01:01:01:01G			10(2)	DQA1*03:01:01			33(7)	DQB1*03:01:01G			8 (2)	DPA1*01:03:01G			10(2)	DPB1*10:01:01			40(10)
	DRB1*04:04P			8 (2)	DRB4*01:01P			14(3)	DQA1*03:01:01G			5 (1)	DQB1*03:01P			8 (2)	DPA1*01:03P			5 (1)	DPB1*10:01			56(14)
	DRB1*04:04			56(14)	DRB4*01:03			52(11)	DQA1*03:01			52(11)	DQB1*03:01			56(14)	DPA1*01:03			57(12)	DPB1*10			100(7)
	DRB1*04			100(15)	<i>DRB4*01:01</i>			5 (1)	<i>DQA1*01:01</i>			5 (1)	DQB1*03(DQ7)			43(6)	DPA1*01			100(8)				
					DRB4*01			100(9)	DQA1*03			100(13)	DQB1*03			57(8)								
	<u>25 labs High-DRB1</u>			%(n)					<u>21 labs High-DQA1</u>			%(n)	<u>25 labs High; 14 labs Low-DQB1</u>			%(n)	<u>21 labs High; 8 labs Low-DPA1</u>			%(n)	<u>25 labs High; 7 labs Low-DPB1</u>			%(n)
DRB1*04:09:01			40(10)					DQA1*03:03:01			38(8)	DQB1*03:02:01:02			4 (1)	DPA1*02:01:01			28(6)	DPB1*20:01:01			32(8)	
DRB1*04:09			60(15)					DQA1*03:01:01G			5 (1)	DQB1*03:02:01			20(5)	DPA1*02:01:01G			10(2)	DPB1*20:01:01G			16(4)	
								DQA1*03:03			57(12)	DQB1*03:02:01G			12(3)	DPA1*02:01P			5 (1)	DPB1*20:01P			4 (1)	
												DQB1*03:02P			4 (1)	DPA1*02:01			57(12)	DPB1*20:01			48(12)	
												DQB1*03:02			60(15)	DPA1*02			100(8)	DPB1*20			100(7)	
												DQB1*03(DQ8)			43(6)									
												DQB1*03			57(8)									
DNA Typing - class I	<u>24 labs High; 16 labs Low- A</u>			%(n)	<u>24 labs High; 16 labs Low- B</u>			%(n)	<u>24 labs High; 15 labs Low- C</u>			%(n)												
	A*01:01:01:01			4 (1)	B*08:01:01			38(9)	C*05:01:01:02			4 (1)												
	A*01:01:01			34(8)	B*08:01P			4 (1)	C*05:01:01			34(8)												
	A*01:01P			4 (1)	B*08:01			58(14)	C*05:01P			4 (1)												
	A*01:01			58(14)	B*08			100(16)	C*05:01			58(14)												
	A*01			100(16)					C*05			93(14)												
									C*08			7 (1)												
	<u>24 labs High; 16 labs Low- A</u>			%(n)	<u>24 labs High; 16 labs Low- B</u>			%(n)	<u>24 labs High; 15 labs Low- C</u>			%(n)												
	A*02:01:01:01			4 (1)	B*44:02:01:01			4 (1)	C*07:01:01:01			4 (1)												
	A*02:01:01			38(9)	B*44:02:01			34(8)	C*07:01:01			34(8)												
	A*02:01P			4 (1)	B*44:02P			4 (1)	C*07:01P			4 (1)												
	A*02:01			54(13)	B*44:02			58(14)	C*07:01			58(14)												
	A*02			100(16)	B*44			100(16)	C*07			100(15)												

Table 2: Summary of the 319th B-cell Line Exchange

Ter-641

DNA Typing - class II	24 labs High; 14 labs Low-DRB1	%(n)	19 labs High; 9 labs Low-DRB3/4/5	%(n)	20 labs High; 12 labs Low-DQA1	%(n)	24 labs High; 13 labs Low-DQB1	%(n)	19 labs High; 7 labs Low-DPA1	%(n)	24 labs High; 6 labs Low-DPB1	%(n)
	DRB1*04:03:01	29(7)	DRB4*01:03:01	21(4)	DQA1*01:02:01	35(7)	DQB1*03:02:01:01	4 (1)	DPA1*02:02:02	26(5)	DPB1*01:01:01	17(4)
	DRB1*04:03:01G	4 (1)	DRB4*01:01:01G	11(2)	DQA1*01:02	65(13)	DQB1*03:02:01	21(5)	DPA1*02:02:02G	11(2)	DPB1*01:01:01G	20(5)
	DRB1*04:03	67(16)	DRB4*01:01P	16(3)	DQA1*01	100(12)	DQB1*03:02:01G	8 (2)	DPA1*02:02P	11(2)	DPB1*01:01P	17(4)
	DRB1*04	100(14)	DRB4*01:03	52(10)			DQB1*03:02P	4 (1)	DPA1*02:02	52(10)	DPB1*01:01	46(11)
			DRB4*01	100(9)			DQB1*03:02	63(15)	DPA1*02	100(7)	DPB1*01	100(6)
							DQB1*03(DQ8)	54(7)				
							DQB1*03	46(6)				
	24 labs High; 14 labs Low-DRB1	%(n)	19 labs High; 9 labs Low-DRB3/4/5	%(n)	20 labs High; 12 labs Low-DQA1	%(n)	24 labs High; 13 labs Low-DQB1	%(n)			24 labs High; 6 labs Low-DPB1	%(n)
	DRB1*15:02:01:04	4 (1)	DRB5*01:01:01	26(5)	DQA1*03:01:01:01	5 (1)	DQB1*05:02:01	25(6)			DPB1*05:01:01	17(4)
	DRB1*15:02:01G	13(3)	DRB5*01:01:01G	11(2)	DQA1*03:01:01G	5 (1)	DQB1*05:02:01G	8 (2)			DPB1*05:01:01G	20(5)
	DRB1*15:02:01	17(4)	DRB5*01:01P	11(2)	DQA1*03:01:01	30(6)	DQB1*05:02P	4 (1)			DPB1*05:01P	17(4)
	DRB1*15:02P	8 (2)	DRB5*01:01	52(10)	DQA1*03:01	60(12)	DQB1*05:02	63(15)			DPB1*05:01	46(11)
	DRB1*15:02	58(14)	DRB5*01	100(9)	DQA1*03	100(12)	DQB1*05	100(13)			DPB1*05	100(6)
DRB1*15	100(14)											

DNA Typing - class I	23 labs High; 15 labs Low- A	%(n)	23 labs High; 15 labs Low- B	%(n)	23 labs High; 14 labs Low- C	%(n)
	A*24:37	100(23)	B*15:21:01:01	22(5)	C*04:03:01:01	4 (1)
	A*24	100(15)	B*15:21:01	9 (2)	C*04:03:01	31(7)
			B*15:21	69(16)	C*04:03	65(15)
			B*15(B62)	47(7)	C*04	100(14)
			B*15	53(8)		
	23 labs High; 15 labs Low- A	%(n)	23 labs High; 15 labs Low- B	%(n)	23 labs High; 14 labs Low- C	%(n)
	A*34:01:01:01	9 (2)	B*15:35:01:01	9 (2)	C*07:02:01:01	4 (1)
	A*34:01:01	26(6)	B*15:35:01	31(7)	C*07:02:01	31(7)
	A*34:01	65(15)	B*15:35	60(14)	C*07:02P	4 (1)
	A*34	100(15)	B*15(B75)	47(7)	C*07:02	61(14)
			B*15	53(8)	C*07	100(14)

Table 3: Summary of the 319th B-cell Line Exchange

Ter-642																								
DNA Typing - class II	<u>24 labs High; 14 labs Low-DRB1</u>			%(n)	<u>19 labs High; 9 labs Low-DRB3/4/5</u>			%(n)	<u>20 labs High; 12 labs Low-DQA1</u>			%(n)	<u>24 labs High; 13 labs Low-DQB1</u>			%(n)	<u>20 labs High; 7 labs Low-DPA1</u>			%(n)	<u>24 labs High; 6 labs Low-DPB1</u>			%(n)
	DRB1*03:43			100(24)	DRB3*01:01:02			21(4)	DQA1*03:01:01:01			5 (1)	DQB1*02:01:01			25(6)	DPA1*01:03:01			30(6)	DPB1*02:01:02			17(4)
	DRB1*03(DR17)			36(5)	DRB3*01:01:02G			16(3)	DQA1*03:01:01			30(6)	DQB1*02:01:01G			8 (2)	DPA1*01:03:01G			5 (1)	DPB1*02:01:02G			25(6)
	DRB1*03			64(9)	DRB3*01:01P			16(3)	DQA1*03:01			65(13)	DQB1*02:01P			4 (1)	DPA1*01:03P			5 (1)	DPB1*02:01P			17(4)
					DRB3*01:01			47(9)	DQA1*03			100(12)	DQB1*02:01			63(15)	DPA1*01:03			60(12)	DPB1*02:01			41(10)
					DRB3*01			100(9)					DQB1*02			100(13)	DPA1*01			100(7)	DPB1*02(DP201)			33(2)
																					DPB1*02			67(4)
DNA Typing - class I	<u>23 labs High; 15 labs Low- A</u>			%(n)	<u>23 labs High; 15 labs Low- B</u>			%(n)	<u>23 labs High; 14 labs Low- C</u>			%(n)												
	A*01:01:01:01			4 (1)	B*08:01:01			35(8)	C*03:03:01:01			4 (1)												
	A*01:01:01			26(6)	B*08:01P			4 (1)	C*03:03:01			30(7)												
	A*01:01:01G			4 (1)	B*08:01			61(14)	C*03:03P			4 (1)												
	A*01:01P			4 (1)	B*08			100(15)	C*03:03			61(14)												
	A*01:01			61(14)					C*03(Cw9)			50(7)												
	A*01			100(15)					C*03			50(7)												

Table 4a: Individual laboratory results for B-cell #640- Class II														
	Low resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
725	*04		4*01		*03		*03(DQ7)	*03(DQ8)					SSO	
747	*04	*04	4*01	4*01	*03	*03	*03	*03	*01	*02	*10	*20	SSP SSO NGS RT-PCR	
771	*04	*04			*03	*03	*03	*03					SSO NGS	
792	*04	*04	4*01	4*01	*03	*03	*03(DQ7)	*03(DQ8)	*01	*02	*10	*20	SSO NGS	
793	*04	*04	4*01	4*01	*03	*03	*03(DQ7)	*03(DQ8)	*01	*02			RT-PCR	
794	*04	*04	4*01	4*01	*03	*03	*03	*03	*01	*02	*10	*20	SSO NGS RT-PCR	
2847	*04	*04											SSO	
3519	*04	*04	4*01	4*01	*03	*03	*03	*03	*01	*02	*10	*20		
3966	NT												SSP SSO RT-PCR	
5130	*04	*04	4*01	4*01	*03	*03	*03	*03	*01	*02	*10	*20	NGS RT-PCR	
5214	*04	*04	4*01		*03		*03(DQ7)	*03(DQ8)	*01	*02	*10	*20	SSO	
5488													SSO NGS	
6649	*04	*04					*03(DQ7)	*03(DQ8)					SSO SBT	
8029	*04	*04			*03	*03	*03	*03					SSO NGS	
8043	*04	*04			*03	*03	*03	*03					SSO NGS	
8068	*04	*04			*03	*03	*03	*03					SSO	DQA1*04
8123	*04	*04	4*01	4*01	*03	*03	*03(DQ7)	*03(DQ8)	*01	*02	*10	*20	RT-PCR	

Table 4b: Individual laboratory results for B-cell #640 - Class II

	High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles	
230	*04:04	*04:09	4*01:01	4*01:03	*01:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01	SSP SSO NGS RT-PCR		
747	*04:04:01	*04:09:01	4*01:03:01	4*01:03:02	*03:01:01	*03:03:01	*03:01:01	*03:02:01	*01:03:01	*02:01:01	*10:01:01	*20:01:01			
762	*04:04	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01		NGS	
771	*04:04	*04:09					*03:01	*03:02			*10:01	*20:01		SSO NGS	
792	*04:04	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01		SSO NGS	
793											*10:01	*20:01	RT-PCR		
794	*04:04:01	*04:09:01	4*01:03	4*01:03	*03:01:01	*03:03:01	*03:01:01	*03:02:01	*01:03:01	*02:01:01	*10:01:01	*20:01:01	SSO NGS RT-PCR		
2344	*04:04:01G	*04:09:01					*03:01:01G	*03:02:01G			*10:01:01	*20:01:01G	NGS		
3135	*04:04P	*04:09:01	4*01:03:01	4*01:03:02	*03:01:01G	*03:01:01G	*03:01P	*03:02P	*01:03	*02:01	*10:01:01	*20:01:01			
3224	*04:04	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01P	*03:02	*01:03	*02:01	*10:01	*20:01P	NGS		
3511	*04:04	*04:09	4*01:01P	4*01:01P	*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01	NGS		
3519	*04:04P	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01			
3753	*04:04:01G	*04:09:01	4*01:01:01G	4*01:01:01G	*03:01:01	*03:03:01	*03:01:01G	*03:02:01G	*01:03:01	*02:01:01	*10:01:01	*20:01:01	NGS		
3966	*04:04	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01	*03:02	*01:03:01G	*02:01:01G	*10:01	*20:01:01G	SSP SSO RT-PCR		
4337	*04:04	*04:09					*03:01	*03:02			*10:01	*20:01	SSP SBT NGS		
5130	*04:04	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01:01	*20:01:01G	NGS RT-PCR		
5133	*04:04:01	*04:09:01	4*01:03:01	4*01:03:02	*03:01:01	*03:03:01	*03:01:01	*03:02:01	*01:03:01	*02:01:01	*10:01:01	*20:01:01	NGS		
5451	*04:04:01	*04:09:01	4*01:01P		*03:01:01	*03:03:01	*03:01:01	*03:02:01	*01:03:01	*02:01:01	*10:01:01	*20:01:01	NGS		
5462	*04:04	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01	NGS		
5488	*04:04:01	*04:09:01	4*01:03:01	4*01:03:02	*03:01:01	*03:03:01	*03:01:01	*03:02:01	*01:03:01	*02:01:01	*10:01:01	*20:01:01	SSO NGS		
6649	*04:04	*04:09					*03:01	*03:02					SSO SBT		
8001	*04:04	*04:09	4*01:03		*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01	NGS		
8029	*04:04:01G	*04:09:01	4*01:01:01G		*03:01:01	*03:03:01	*03:01:01	*03:02:01G	*01:03:01G	*02:01:01G	*10:01:01	*20:01:01G	SSO NGS		
8038	*04:04:01	*04:09:01	4*01:01P	4*01:01P	*03:01:01:01	*03:03:01	*03:01:01	*03:02:01:02	*01:03P	*02:01P	*10:01:01:06	*20:01:01	NGS		
8043	*04:04	*04:09	4*01:03		*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01	SSO NGS		
8122	*04:04	*04:09	4*01:03	4*01:03	*03:01	*03:03	*03:01	*03:02	*01:03	*02:01	*10:01	*20:01	NGS	DQB1*03:454	

Table 5: Individual laboratory results for B-cell #640 - Class I

Center	Low resolution						High resolution						METHOD	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
230							*01:01	*02:01	*08:01	*44:02	*05:01	*07:01		
725	*01	*02	*08	*44	*05	*07							SSO	
747	*01	*02	*08	*44	*05	*07	*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSP SSO NGS	
762							*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	RT-PCR	
771	*01	*02	*08	*44	*05	*07	*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	NGS	
792	*01	*02	*08	*44	*05	*07	*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	SSO NGS	
793	*01	*02	*08	*44	*05	*07							SSO NGS	
													RT-PCR	
794	*01	*02	*08	*44	*05	*07	*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSO NGS	
2344							*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01	RT-PCR	
2847	*01	*02	*08	*44	*05	*07							NGS	
3135													SSO	
3224							*01:01P	*02:01P	*08:01P	*44:02P	*05:01P	*07:01P		
3511							*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	NGS	
3519	*01	*02	*08	*44	*05	*07	*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	NGS	
3753							*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01		
													NGS	
3966	*01	*02	*08	*44	*05	*07							SSP SSO	
4337							*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	RT-PCR	
5130	*01	*02	*08	*44	*05	*07	*01:01	*02:01:01	*08:01	*44:02	*05:01	*07:01	SSP SBT NGS	
5133							*01:01:01:01	*02:01:01:01	*08:01:01	*44:02:01:01	*05:01:01:02	*07:01:01:01	NGS RT-PCR	A*02:01:01:02L
5214	*01	*02	*08	*44	*08	*07							NGS	
5451							*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSO	
5462							*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	NGS	
5488							*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01	NGS	
6649	*01	*02	*08	*44			*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	SSO NGS	
8001							*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	SSO SBT	
8029	*01	*02	*08	*44	*05	*07	*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01	NGS	
8038							*01:01:01	*02:01:01	*08:01:01	*44:02:01	*05:01:01	*07:01:01	SSO NGS	
8043	*01	*02	*08	*44	*05	*07	*01:01	*02:01	*08:01	*44:02	*05:01	*07:01	NGS	
8068	*01	*02	*08	*44	*05	*07							SSO NGS	
													SSO	
8122							*01:01	*02:01	*08:01	*44:02	*05:01	*07:01		
8123	*01	*02	*08	*44	*05	*07							NGS	
													RT-PCR	

Table 6a: Individual laboratory results for B-cell #641- Class II														
Center	Low resolution												METHOD	Other Alleles
	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1			
725	*04	*15	4*01	5*01	*01	*03	*03(DQ8)	*05					SSO	
747	*04	*15	4*01	5*01	*01	*03	*03(DQ8)	*05	*02	*02	*01	*05	SSP SSO NGS RT-PCR	
771	*04	*15			*01	*03	*03	*05					SSO NGS	
792	*04	*15	4*01	5*01	*01	*03	*03(DQ8)	*05	*02	*02	*01	*05	SSO NGS	
793	*04	*15	4*01	5*01	*01	*03	*03(DQ8)	*05	*02	*02			RT-PCR	
794	NT													
2847	*04	*15											SSO	
3519	*04	*15	4*01	5*01	*01	*03	*03	*05	*02	*02	*01	*05		
3966			4*01	5*01									SSP SSO RT-PCR	
5130	*04	*15	4*01	5*01	*01	*03	*03	*05	*02	*02	*01	*05	NGS RT-PCR	
5214	*04	*15	4*01	5*01	*01	*03	*03(DQ8)	*05	*02		*01	*05	SSO	
5488													SSO NGS	
6649	*04	*15					*03(DQ8)	*05					SSO SBT	
8029	*04	*15			*01	*03	*03	*05					SSO NGS	
8043	*04	*15			*01	*03	*03	*05					SSO NGS	
8068	*04	*15			*01	*03	*03	*05					SSO	
8123	*04	*15	4*01	5*01	*01	*03	*03(DQ8)	*05	*02	*02	*01	*05	RT-PCR	

Table 6b: Individual laboratory results for B-cell #641- Class II

	High resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02	*02:02	*01:01	*05:01	SSP SSO NGS RT-PCR	
747	*04:03:01	*15:02:01	4*01:03:01	5*01:01:01	*01:02:01	*03:01:01	*03:02:01	*05:02:01	*02:02:02	*02:02:02	*01:01:01	*05:01:01		
762	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02	NT	*01:01	*05:01		
771	*04:03	*15:02					*03:02	*05:02			*01:01	*05:01		
792	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02	*02:02	*01:01	*05:01		
793											*01:01	*05:01	RT-PCR	
794	NT													
2344	*04:03:01G	*15:02:01G					*03:02:01G	*05:02:01G			*01:01:01G	*05:01:01G	NGS	
3135	*04:03	*15:02P	4*01:03:01	5*01:01	*01:02	*03:01:01G	*03:02P	*05:02P	*02:02P	*02:02P	*01:01P	*05:01P		
3224	*04:03	*15:02	4*01:03	5*01:01P	*01:02	*03:01	*03:02	*05:02	*02:02	*02:02	*01:01P	*05:01P	NGS	
3511	*04:03	*15:02	4*01:01P	5*01:01P	*01:02	*03:01	*03:02	*05:02	*02:02	*02:02	*01:01	*05:01	NGS	
3519	*04:03	*15:02P	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02			*01:01P	*05:01P		DPB1*1273:01
3753	*04:03:01	*15:02:01G	4*01:01:01G	5*01:01:01G	*01:02:01	*03:01:01	*03:02:01G	*05:02:01G	*02:02:02	*02:02:02	*01:01:01G	*05:01:01G	NGS	
3966	*04:03	*15:02			*01:02	*03:01	*03:02	*05:02	*02:02:02G	*02:02:02G	*01:01:01G	*05:01:01G	SSP SSO RT-PCR	DPA1*02:07
4337	*04:03	*15:02					*03:02	*05:02			*01:01	*05:01	SSP SBT NGS	
5130	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02	*02:02	*01:01:01G	*05:01:01G	NGS RT-PCR	
5133	*04:03:01	*15:02:01	4*01:03:01	5*01:01:01	*01:02:01	*03:01:01	*03:02:01	*05:02:01	*02:02:02	*02:02:02	*01:01:01	*05:01:01	NGS	
5451	*04:03:01	*15:02:01	4*01:01P	5*01:01:01	*01:02:01	*03:01:01	*03:02:01	*05:02:01	*02:02:02		*01:01:01	*05:01:01	NGS	
5462	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02	*02:02	*01:01	*05:01	NGS	
5488	*04:03:01	*15:02:01	4*01:03:01	5*01:01:01	*01:02:01	*03:01:01	*03:02:01	*05:02:01	*02:02:02	*02:02:02	*01:01:01	*05:01:01	SSO NGS	
6649	*04:03	*15:02					*03:02	*05:02					SSO SBT	
8001	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02		*01:01	*05:01	NGS	
8029	*04:03:01	*15:02:01G	4*01:01:01G	5*01:01:01G	*01:02:01	*03:01:01	*03:02:01	*05:02:01	*02:02:02G	*02:02:02G	*01:01:01G	*05:01:01G	SSO NGS	
8038	*04:03:01	*15:02:01:04	4*01:01P	5*01:01:01	*01:02:01	*03:01:01:01	*03:02:01:01	*05:02:01	*02:02P	*02:02P	*01:01P	*05:01P	NGS	
8043	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02		*01:01	*05:01	SSO NGS	
8122	*04:03	*15:02	4*01:03	5*01:01	*01:02	*03:01	*03:02	*05:02	*02:02	*02:02	*01:01	*05:01	NGS	

Table 7: Individual laboratory results for B-cell #641 - Class I

	Low resolution						High resolution							
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C		METHOD	Other Alleles
230							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02		
725	*24	*34	*15(B62)	*15(B75)	*04	*07							SSO	
747	*24	*34	*15	*15	*04	*07	*24:37	*34:01:01	*15:21:01:01	*15:35:01	*04:03:01	*07:02:01	SSP SSO NGS RT-PCR	
762							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	NGS	
771	*24	*34	*15	*15	*04	*07	*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	SSO NGS	
792	*24	*34	*15(B62)	*15(B75)	*04	*07	*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	SSO NGS	
793	*24	*34	*15(B62)	*15(B75)	*04	*07							RT-PCR	
794	NT												SSO NGS RT-PCR	
2344							*24:37	*34:01:01	*15:21:01:01	*15:35:01	*04:03:01	*07:02:01	NGS	
2847	*24	*34	*15	*15	*04	*07							SSO	
3135							*24:37	*34:01	*15:21	*15:35:01	*04:03	*07:02P		
3224							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	NGS	
3511							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	NGS	
3519	*24	*34	*15	*15	*04	*07	*24:37	*34:01	*15:21	*15:35	*04:03	*07:02		
3753							*24:37	*34:01:01	*15:21:01	*15:35:01	*04:03:01	*07:02:01	NGS	
3966	*24	*34	*15(B62)	*15(B75)	*04	*07							SSP SSO RT-PCR	
4337							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	SSP SBT NGS	
5130	*24	*34	*15	*15	*04	*07	*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	NGS RT-PCR	
5133							*24:37	*34:01:01:01	*15:21:01:01	*15:35:01:01	*04:03:01:01	*07:02:01:01	NGS	
5451							*24:37	*34:01:01	*15:21	*15:35:01	*04:03:01	*07:02:01	NGS	
5214	*24	*34	*15(B62)	*15(B75)	*04	*07							SSO	
5462							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	NGS	
5488							*24:37	*34:01:01	*15:21:01	*15:35:01	*04:03:01	*07:02:01	SSO NGS	
6649	*24	*34	*15(B62)	*15(B75)			*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	SSO SBT	
8001							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	NGS	
8029	*24	*34	*15	*15	*04	*07	*24:37	*34:01:01	*15:21:01:01	*15:35:01	*04:03:01	*07:02:01	SSO NGS	
8038							*24:37	*34:01:01:01	*15:21:01:01	*15:35:01:01	*04:03:01	*07:02:01	NGS	
8043	*24	*34	*15	*15	*04	*07	*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	SSO NGS	
8068	*24	*34	*15	*15	*04	*07							SSO	
8122							*24:37	*34:01	*15:21	*15:35	*04:03	*07:02	NGS	
8123	*24	*34	*15(B62)	*15(B75)	*04	*07							RT-PCR	

Table 8a: Individual laboratory results for B-cell #642- Class II

Table 1a: Individual laboratory results for D-SSR HLA-2 Class II														
	Low resolution													
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
725	*03(DR17)	*04	3*01	4*01	*03	*05	*02	*03(DQ8)					SSO	
747	*03	*04	3*01	4*01	*03	*05	*02	*03(DQ8)	*01	*01	*02	*04	SSP SSO NGS RT-PCR	
771	*03	*04			*03	*05	*02	*03					SSO NGS	
792	*03(DR17)	*04	3*01	4*01	*03	*05	*02	*03(DQ8)	*01	*01	*02	*04	SSO NGS	
793	*03(DR17)	*04	3*01	4*01	*03	*05	*02	*03(DQ8)	*01	*01			RT-PCR	
794	NT													
2847	*03	*04											SSO	
3519	*03	*04	3*01	4*01	*03	*05	*02	*03	*01	*01	*02	*04		
3966			3*01	4*01									SSP SSO RT-PCR	
5130	*03	*04	3*01	4*01	*03	*05	*02	*03	*01	*01	*02	*02	NGS RT-PCR	
5214	*03(DR17)	*04	3*01	4*01	*03	*05	*02	*03(DQ8)	*01		*02(DP201)	*04(DP401)	SSO	
5488													SSO NGS	
6649	*03	*04					*02	*03(DQ8)					SSO SBT	
8029	*03	*04			*03	*05	*02	*03					SSO NGS	
8043	*03	*04			*03	*05	*02	*03					SSO NGS	
8068	*03	*04			*03	*05	*02	*03					SSO	
8123	*03(DR17)	*04	3*01	4*01	*03	*05	*02	*03(DQ8)	*01	*01	*02(DP201)	*04(DP401)	RT-PCR	

Table 8b: Individual laboratory results for B-cell #642 - Class II

	High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles	
230	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01	*04:01	SSP SSO NGS RT-PCR		
747	*03:43	*04:01:01	3*01:01:02	4*01:03:01	*03:01:01	*05:01:01	*02:01:01	*03:02:01	*01:03:01	*01:03:01	*02:01:02	*04:01:01			
762	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01	*04:01		NGS	
771	*03:43	*04:01					*02:01	*03:02			*02:01:02G	*04:01:01G		SSO NGS	
792	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01	*04:01		SSO NGS	
793											*02:01	*04:01	RT-PCR		
794	NT														
2344	*03:43	*04:01:01G					*02:01:01G	*03:02:01G			*02:01:02G	*04:01:01G	NGS		
3135	*03:43	*04:01P	3*01:01:02G	4*01:03:01	*03:01	*05:01	*02:01P	*03:02P	*01:03	*01:03	*02:01P	*04:01P			
3224	*03:43	*04:01	3*01:01P	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01P	*04:01P	NGS		
3511	*03:43	*04:01	3*01:01	4*01:01P	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01	*04:01	NGS		
3519	*03:43	*04:01P	3*01:01P	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01P	*04:01P		DRB3*01:62	
3753	*03:43	*04:01:01G	3*01:01:02G	4*01:01:01G	*03:01:01	*05:01:01	*02:01:01G	*03:02:01G	*01:03:01	*01:03:01	*02:01:02G	*04:01:01G	NGS		
3966	*03:43	*04:01			*03:01	*05:01	*02:01	*03:02	*01:03:01G	*01:03:01G	*02:01:02G	*04:01:01G	SSP SSO RT-PCR	DPB1*02:01:04	
4337	*03:43	*04:01					*02:01	*03:02			*02:01	*04:01	SSP SBT NGS		
5130	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01:02G	*04:01:01G	NGS RT-PCR	DRB3*01:62	
5133	*03:43	*04:01:01	3*01:01:02	4*01:03:01	*03:01:01	*05:01:01	*02:01:01	*03:02:01	*01:03:01	*01:03:01	*02:01:02	*04:01:01	NGS		
5451	*03:43	*04:01:01	3*01:01:02	4*01:01P	*03:01:01	*05:01:01	*02:01:01	*03:02:01	*01:03:01		*02:01:02	*04:01:01	NGS		
5462	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01	*04:01	NGS		
5488	*03:43	*04:01:01	3*01:01:02	4*01:03:01	*03:01:01	*05:01:01	*02:01:01	*03:02:01	*01:03:01	*01:03:01	*02:01:02	*04:01:01	SSO NGS		
6649	*03:43	*04:01					*02:01	*03:02					SSO SBT	DRB1*04:274	
8001	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03		*02:01	*04:01	NGS		
8029	*03:43	*04:01:01G	3*01:01:02G	4*01:01:01G	*03:01:01	*05:01:01G	*02:01:01	*03:02:01	*01:03:01	*01:03:01G	*02:01:02G	*04:01:01G	SSO NGS		
8038	*03:43	*04:01:01	3*01:01P	4*01:01P	*03:01:01:01	*05:01:01	*02:01:01	*03:02:01:01	*01:03P	*01:03P	*02:01P	*04:01P	NGS		
8043	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03		*02:01	*04:01	SSO NGS		
8122	*03:43	*04:01	3*01:01	4*01:03	*03:01	*05:01	*02:01	*03:02	*01:03	*01:03	*02:01	*04:01	NGS	DPB1*939:01 DPB1*1226:01 DRB3*01:62	

Table 9: Individual laboratory results for B-cell #642 - 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	*01:01	*08:01	*15:01	*03:03	*07:01		
725	*01		*08	*15(B62)	*03(Cw9)	*07							SSO	
747	*01	*01	*08	*15(B62)	*03(Cw9)	*07	*01:01:01	*01:01 :01	*08:01:01	*15:01:01	*03:03:01	*07:01:01	SSP SSO NGS	
762							*01:01	NT	*08:01	*15:01	*03:03	*07:01	NGS	
771	*01	*01	*08	*15	*03	*07	*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	SSO NGS	
792	*01	*01	*08	*15(B62)	*03(Cw9)	*07	*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	SSO NGS	
793	*01	*01	*08	*15(B62)	*03(Cw9)	*07							RT-PCR	
794	NT												SSO NGS	
2344							*01:01:01	*01:01 :01	*08:01:01	*15:01:01	*03:03:01	*07:01:01	NGS	
2847	*01		*08	*15	*03	*07							SSO	
3135							*01:01P	*01:01 P	*08:01P	*15:01P	*03:03P	*07:01P		
3224							*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	NGS	
3511							*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	NGS	
3519	*01	*01	*08	*15	*03	*07	*01:01	*01:01	*08:01	*15:01	*03:03	*07:01		
3753							*01:01:01	*01:01 :01	*08:01:01	*15:01:01G	*03:03:01	*07:01:01	NGS	
3966	*01	*01	*08	*15(B62)	*03(Cw9)	*07							SSP SSO	
4337							*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	SSP SBT NGS	
5130	*01	*01	*08	*15	*03	*07	*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	NGS RT-PCR	
5133							*01:01:01:01	*01:01 :01:01	*08:01:01	*15:01:01	*03:03:01:01	*07:01:01:01	NGS	
5214	*01		*08	*15(B62)	*03(Cw9)	*07							SSO	
5451							*01:01:01		*08:01:01	*15:01:01	*03:03:01	*07:01:01	NGS	
5462							*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	NGS	
5488							*01:01:01	*01:01 :01	*08:01:01	*15:01:01	*03:03:01	*07:01:01	SSO NGS	
6649	*01	*01	*08	*15(B62)			*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	SSO SBT	
8001							*01:01		*08:01	*15:01	*03:03	*07:01	NGS	
8029	*01	*01	*08	*15	*03	*07	*01:01:01G	*01:01 :01G	*08:01:01	*15:01:01	*03:03:01	*07:01:01	SSO NGS	
8038							*01:01:01	*01:01 :01	*08:01:01	*15:01:01	*03:03:01	07:01:01	NGS	
8043	*01		*08	*15	*03	*07	*01:01		*08:01	*15:01	*03:03	*07:01	SSO NGS	
8068	*01	*01	*08	*15	*03	*07							SSO	
8122							*01:01	*01:01	*08:01	*15:01	*03:03	*07:01	NGS	
8123	*01	*01	*08	*15(B62)	*03(Cw9)	*07							RT-PCR	