

REPORT OF THE 413th CELL EXCHANGE

NOVEMBER 26, 2019

B-cell Lines	567-568
Cells	1649-1652
Sera	1277-1280

B-cell Line Exchange #284

The results for B-cell Line Exchange #284 are summarized in Tables 1 - 2 and individual laboratory results reported for each sample are listed in Tables 3 - 6. The reference cells examined in this study were generously donated by **Oxford Transplant Centre, Churchill Hospital, Oxford, and Welsh Blood**

Service, Pontyclun. 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-567. The consensus type for this cell from an Asian Indian donor was DRB1*15:02-DRB5*01:02-DQA1*01:03-DQB1*06:01-DPA1*01:03-DPA1*02:01-DPB1*04:02-DPB1*26:01/A*24:33-A*68:01-B*07:02-B*51:06-C*07:02-C*12:04. Exchange data combined with family analysis results published by Vilches (1) reveal the haplotypes in this cell to be A*24:33-B*51:06-C*12:04-DRB1*15:02-DRB5*01:02-DQA1*01:03-DQB1*06:01 and A*68:01-B*07:02-C*07:02-DRB1*15:02-DRB5*01:02-DQA1*01:03-DQB1*06:01.

This cell was NDS-JD, the reference cell for C*12:04:02:01. It was previously examined for class I as extracts 266 (2003), 218 (2002), 177 (2001), and 86 (1999) and for class II as Ter 242 (1999).

In this present retyping, the assignment of A*24:33 improved, as 100% (23/23) of labs assigned A*24:33 compared to only 7 labs assigning A*24:33 in 2003. A*68:01, B*07:02, B*51:06, C*07:02, and C*12:04 were all also well assigned (100%), with 8 labs reporting A*68:01:02, B*07:02:01, B*51:06:01, C*07:02:01, and C*12:04:02.

Good agreement was also achieved among labs for class II assignments, as 100% of labs reported this cell as homozygous for DRB1*15:02, DRB5*01:02, DQA1*01:03, and DQB1*06:01. DRB1*15:02:01 for assigned 10 labs, DQA1*01:03:01 was assigned by 6 labs, and DQB1*06:01:01 was assigned by 8 labs.

Ter-568. The consensus type for this cell from a Caucasian donor was DRB1*07:01-DRB1*15:07-DRB4*01:03:01N-DRB5*01:01-DQA1*01:02-DQA1*02:01-DQB1*03:03-DQB1*06:02-DPA1*01:03-DPB1*04:01/A*03:01-A*26:01-B*27:05-B*57:01-C*06:02-C*07:04. One likely association present in this cell was A*03:01-B*57:01-DRB1*07:01-DQB1*03:03, observed in Caucasians, with HF = 0.00130. The other likely association present was A*26:01-B*27:05-DRB1*15:07-DQB1*06:02.

This cell was UBM12218693, the reference cell for DRB1*15:07:01. It was previously examined for class II as Ter 451 (2011), Ter 371 (2006), and Ter 291 (2002). We would like to acknowledge Rao for correctly identifying this cell as being the same cell as Ter 451.

In this present retyping, A*03:01, A*26:01 B*27:05 B*57:01, C*06:02, and C*07:04 were each reported by 100%. A*03:01:01, A*26:01:01, B*27:05:02, B*57:01:01, C*06:02:01, and C*07:04:01 were each assigned by 8 labs.

Good agreement was also achieved for class II assignments. DRB1*07:01 and DRB1*15:07 were each reported by 100%, with 10 labs reporting DRB1*07:01:01 and 11 labs reporting DRB1*15:07:01. DQB1*03:03 (100%) and DQB1*06:02 (100%) were the reported DQB1 types, with DQB1*03:03:02 and DQB1*06:02:01 each assigned by 8 labs.

References:

1. Vilches C, Bunce M, van Dam M, and de Pablo, R. A new pair of HLA-C alleles, Cw*12042 and Cw*1203, differing at the KIR-related dimorphism of codons 77 77 - 80. Tissue Antigens 1998; 51:101-105.

Table 1: Summary of the 284th B-cell Line Exchange

Ter-567																				
DNA Typing - class II	<u>33 labs High; 28 labs low-DRB1</u>		%(n)	<u>22 labs High; 19 labs Low-DRB3/4/5</u>		%(n)	<u>23 labs High; 24 labs Low-DQA1</u>		%(n)	<u>32 labs High; 26 labs Low-DQB1</u>		%(n)	<u>17 labs High; 13 labs Low-DPA1</u>		%(n)	<u>29 labs High; 18 labs Low-DPB1</u>		%(n)		
	DRB1*15:02:01:01	6 (2)		DRB5*01:02:01G	5 (1)		DQA1*01:03:01:01	17(4)		DQB1*06:01:01	25(8)		DPA1*01:03:01:01	11(2)		DPB1*04:02:01	31(9)			
	DRB1*15:02:01	24(8)		DRB5*01:02	95(21)		DQA1*01:03:01	9 (2)		DQB1*06:01P	3 (1)		DPA1*01:03:01	24(4)		DPB1*04:02	69(20)			
	DRB1*15:02:01G	6 (2)		DRB5*01	74(14)		DQA1*01:03	74(17)		DQB1*06:01	72(23)		DPA1*01:03P	6 (1)		DPB1*04(DP402)	44(8)			
	DRB1*15:02	64(21)		DRB5*PRESENT	26(5)		DQA1*01	100(24)		DQB1*06	100(26)		DPA1*01:03	59(10)		DPB1*04	56(10)			
	DRB1*15	100(28)											DPA1*01	100(13)						
DNA Typing - class I	<u>23 labs High; 22 labs low- A</u>		%(n)	<u>23 labs High; 23 labs low- B</u>		%(n)	<u>23 labs High; 22 labs low- C</u>		%(n)											
	A*24:33	100(23)		B*07:02:01:01	4 (1)		C*07:02:01:03	4 (1)												
	A*24	100(22)		B*07:02:01	30(7)		C*07:02:01	30(7)												
				B*07:02P	4 (1)		C*07:02	65(15)												
				B*07:02	61(14)		C*07	100(22)												
				B*07	100(23)															

Table 2: Summary of the 284th B-cell Line Exchange

Ter-568

Ter-568												
DNA Typing - class II	<u>33 labs High; 28 labs low-DRB1</u>	%(n)	<u>22 labs High; 18 labs Low-DRB3/4/5</u>	%(n)	<u>23 labs High; 24 labs Low-DQA1</u>	%(n)	<u>32 Labs High; 26 labs Low-DQB1</u>	%(n)	<u>17 labs High; 13 labs Low-DPA1</u>	%(n)	<u>29 labs High; 18 labs Low-DPB1</u>	%(n)
	DRB1*07:01:01:02	3 (1)	DRB4*01:03:01:02N	54(12)	DQA1*01:02:01	22(5)	DQB1*03:03:02:01	9 (3)	DPA1*01:03:01:02	18(3)	DPB1*04:01:01:01	3 (1)
	DRB1*07:01:01	27(9)	DRB4*01:03:01N	14(3)	DQA1*01:02	78(18)	DQB1*03:03:02	16(5)	DPA1*01:03:01	18(3)	DPB1*04:01:01:02	3 (1)
	DRB1*07:01:01G	3 (1)	DRB4*01:03N	32(7)	DQA1*01	100(24)	DQB1*03:03P	3 (1)	DPA1*01:03P	6 (1)	DPB1*04:01:01	24(7)
	DRB1*07:01P	3 (1)	DRB4*01N	61(11)			DQB1*03:03	72(23)	DPA1*01:03	58(10)	DPB1*04:01:01G	3 (1)
	DRB1*07:01	64(21)	DRB4*01	22(4)			DQB1*03(DQ6)	4 (1)	DPA1*01	100(13)	DPB1*04:01	66(19)
	DRB1*07	100(28)	DRB4*NULL	11(2)			DQB1*03	91(25)			DPB1*04(DP401)	39(7)
			DRB4*PRESENT	6 (1)							DPB1*04	61(11)
DNA Typing - class I	<u>23 labs High; 22 labs low- A</u>	%(n)	<u>23 labs High; 23 labs low- A</u>	%(n)	<u>23 labs High; 22 labs low- C</u>	%(n)						
	A*03:01:01:01	13(3)	B*27:05:02	35(8)	C*06:02:01:01	13(3)						
	A*03:01:01	22(5)	B*27:05P	4 (1)	C*06:02:01	22(5)						
	A*03:01P	4 (1)	B*27:05	61(14)	C*06:02P	4 (1)						
	A*03:01	61(14)	B*27	100(23)	C*06:02	61(14)						
	A*03	100(22)			C*06	100(22)						

Table 3a: Individual laboratory results for B-cell #567 - Class II

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
278	*15	*15	5*01	5*01	*01	*01	*06	*06	*01	*02	*04	*26	SSP SSO	
725	*15		5*PRESENT		*01		*06						SSP SSO	
731	*15	*15			*01	*01	*06	*06	*01	*02	*04	*26	SSP SSO SBT	
735	*15	*15	5*01	5*01	*01	*01	*06	*06	*01	*02	*04(DP402)	*26	SSP SSO SBT	
747	*15		5*PRESENT		*01		*06		*01	*02	*04	*26	SSP SSO NGS	
771	*15				*01		*06						SSP SSO	
774	*15		5*01		*01		*06				*04(DP402)	*26	SSP SSO	
792	*15	*15	5*01	5*01	*01	*01	*06	*06	*01	*02	*04	*26	SSO SBT	
793	*15		5*PRESENT		*01		*06				*04(DP402)	*26	SSP	
794	*15		5*01		*01		*06		*01	*02	*04	*26	SSP SSO NGS	
2400	*15		5*01	NP	*01		*06		NT	NT	*04	*26	RT-PCR	
2847	*15												SSO	
3519	*15				*01		*06		*01	*02	*04(DP402)	*26	SSP NGS RT-PCR	
3632	*15		5*01		*01		*06		*01	*02	*04	*26	SSP SSO	
4079	*15		5*01		*01		*06		*01	*02	*04	*26	SSP SSO NGS	
4251	*15	*15	5*01	5*01	*01	*01	*06	*06	*01	*02	*04(DP402)	*26	SSO NGS	
4492	*15		5*PRESENT		*01		*06		*01	*02	*04(DP402)	*26	SSP SSO NGS	
5130	*15	*15	5*01		*01	*01	*06	*06			*04	*26	SSO NGS	
5214	*15		5*01		*01		*06		*01	*02	*04(DP402)	*26	SSO	
5219	*15	*15					*06	*06			*04	*26	SSO NGS	
5451	*15		5*01		*01		*06						SSO SBT	
5462	*15		5*01		*01		*06		*01	*02	*04(DP402)	*26	SSO	
5642	*15	*15	5*PRESENT				*06	*06					SSP	
6649	*15												SSO	
8001	*15		5*01		*01		*06							
8029	*15	*15			*01	*01	*06	*06					SSO	
8043	*15				*01		*06						SSP SSO	
8068	*15	*15			*01	*01	*06	*06					SSO	

Table 3b: Individual laboratory results for B-cell #567 - Class II

Center	High resolution												METHOD	Other Alleles
	DRB1	DRB3/4/5	DQA1		DQB1		DPA1		DPB1					
230	*15:02	*15:02					*06:01	*06:01			*04:02	*26:01	SSO SBT NGS	
278	*15:02	*15:02	5*01:02	5*01:02	*01:03	*01:03	*06:01	*06:01	*01:03	*02:01	*04:02	*26:01	SSP SSO	
731	*15:02:01						*06:01						SSP SSO SBT	
735	*15:02:01G	*15:02:01G	5*01:02:01G	5*01:02:01G	*01:03	*01:03	*06:01P	*06:01P	*01:03P	*02:01	*04:02	*26:01	SSP SSO SBT	
747	*15:02:01:01		5*01:02		*01:03:01:01		*06:01:01		*01:03:01:01	*02:01:01	*04:02:01	*26:01:02	SSP SSO NGS	DRB1*15:140 DRB1*15:149 DQB1*06:01:15
762	*15:02:01:01		5*01:02		*01:03:01:01		*06:01:01		*01:03:01:01	*02:01:01	*04:02:01	*26:01:02	NGS	
771	*15:02						*06:01						SSP SSO	
774	*15:02		5*01:02		*01:03		*06:01				*04:02	*26:01	SSP SSO	
792	*15:02	*15:02					*06:01	*06:01			*04:02	*26:01	SSO SBT	
793					*01:03						*04:02	*26:01	SSP	
794	*15:02:01		5*01:02		*01:03		*06:01:01		NT	NT	*04:02:01	*26:01:02	SSP SSO NGS RT-PCR	
2344	*15:02:01	*15:02:01					*06:01:01	*06:01:01			*04:02:01	*26:01:02	OTHER	
2400	*15:02		5*01:02	NP	*01:03		*06:01				*04:02	*26:01	SSO NGS	
3135	*15:02		5*01:02		*01:03		*06:01		*01:03	*02:01	*04:02	*26:01		
3224	*15:02		5*01:02		*01:03		*06:01		*01:03	*02:01	*04:02	*26:01	NGS	
3511	*15:02	*15:02	5*01:02	5*01:02	*01:03	*01:03	*06:01	*06:01	*01:03	*02:01	*04:02	*26:01	SSP SSO	
3519	*15:02		5*01:02		*01:03		*06:01		*01:03	*02:01	*04:02	*26:01	SSP NGS RT-PCR	DRB1*15:140 DRB1*15:149
3632	*15:02		5*01:02		*01:03		*06:01		*01:03	*02:01	*04:02	*26:01	SSP SSO	
3753	*15:02:01G	*15:02:01G	5*01:02	5*01:02	*01:03:01	*01:03:01	*06:01	*06:01:01	*01:03:01	*02:01:01	*04:02:01	*26:01:02	NGS	
3966	*15:02		5*01:02				*06:01						SSP	
4079	*15:02		5*01:02		*01:03		*06:01		*01:03	*02:01	*04:02	*26:01	SSP SSO NGS	
4251	*15:02	*15:02	5*01:02	5*01:02	*01:03	*01:03	*06:01	*06:01	*01:03	*02:01:01G	*04:02	*26:01	SSO NGS	
4337	*15:02	*15:02					*06:01	*06:01			*04:02	*26:01	SSP SBT NGS	
4492	*15:02:01	*15:02:01	5*01:02	5*01:02	*01:03:01:01	*01:03:01:01	*06:01:01	*06:01:01	*01:03:01	*02:01:01	*04:02:01	*26:01:02	SSP SSO NGS	DQB1*06:309 DQB1*06:01:15 DQB1*06:307 DQB1*06:309 DPA1*01:03:08 DQB1*06:285 DQB1*06:01:15 DQB1*06:285 DQB1*06:307
5130	*15:02	*15:02	5*01:02		*01:03	*01:03	*06:01	*06:01			*04:02	*26:01	SSO NGS	
5133	*15:02:01		5*01:02		*01:03:01:01		*06:01:01		*01:03:01	*02:01:01	*04:02:01	*26:01:02	NGS	DPA1*01:03:08 DPA1*02:08 DRB1*15:140 DRB1*15:149 DQB1*06:285 DQB1*06:307 DQB1*06:309 DQB1*06:01:15
5219	*15:02:01	*15:02:01					*06:01:01	*06:01:01			*04:02:01	*26:01:02	SSO NGS	

Table 3b: Individual laboratory results for B-cell #567 - Class II

Center	High resolution											METHOD	Other Alleles	
	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1			
5451	*15:02:01												SSO SBT	
5462	NT		NT		NT		NT		NT	NT	*04:02	*26:01	SSO	DPB1*726:01 DPB1*730:01 DPB1*731:01 DPB1*734:01 DPB1*735:01 DPB1*759:01 DPB1*776:01 DPB1*777:01N DPB1*809:01 DPB1*818:01 DPB1*933:01 DPB1*958:01 DPB1*981:01 DPB1*985:01N DPB1*995:01N DPB1*1005:01 DPB1*647:01 DPB1*674:01 DPB1*701:01 DPB1*724:01N DPB1*725:01 DPB1*823:01 DPB1*858:01+
5488	*15:02:01		5*01:02		*01:03:01		*06:01:01		*01:03:01	*02:01:01	*04:02:01	*26:01:02	SSO SBT NGS	DRB1*15:140 DRB1*15:149
5642	*15:02	*15:02					*06:01	*06:01					SSP	
8001	*15:02		5*01:02				*06:01				*04:02	*26:01		
8021	*15:02		5*01:02		*01:03		*06:01		*01:03	*02:01	*04:02	*26:01	SSO NGS	
8043	*15:02				*01:03		*06:01						SSP SSO	
8086	*15:02	*15:02			*01:03	*01:03	*06:01	*06:01	*01:03	*02:01	*04:02	*26:01	SSO SBT	

Table 4: Individual laboratory results for B-cell #567 - Class I

Table 4: Individual laboratory results for B-cell #567 - Class I														
Low resolution							High resolution						METHOD	Other Alleles
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
230							*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO SBT NGS	
278	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSP SSO	
725	*24	*68	*07	*51	*07	*12							SSP SSO	
731	*24	*68	*07	*51	*07	*12							SSP SSO SBT	
735	*24	*68	*07	*51	*07	*12	*24:33	*68:01P	*07:02P	*51:06	*07:02	*12:04	SSP SSO SBT	
747	*24	*68	*07	*51	*07	*12	*24:33	*68:01:02:01	*07:02:01:01	*51:06:01	*07:02:01:03	*12:04:02	SSP SSO NGS	
774	*24	*68	*07	*51	*07	*12				*51:06			SSP SSO	
792	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO SBT	
793	*24	*68	*07	*51	*07	*12							SSP	
794	*24	*68	*07	*51	*07	*12	*24:33	*68:01:02	*07:02:01	*51:06:01	*07:02:01	*12:04:02	SSP SSO NGS	
2344							*24:33	*68:01:02	*07:02:01	*51:06:01	*07:02:01	*12:04:02	RT-PCR	
2400	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	OTHER	
2847	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO NGS	
3135							*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO	
3224							*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	NGS	
3511							*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSP SSO	
3519	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSP NGS RT-PCR	
3753							*24:33	*68:01:02	*07:02:01	*51:06:01	*07:02:01	*12:04:02	NGS	
3966	*24	*68	*07	*51	*07	*12							SSP	
4079	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSP SSO NGS	
4251	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO NGS	
4337							*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSP SBT NGS	
4492	*24	*68	*07	*51	*07	*12	*24:33	*68:01:02:01	*07:02:01	*51:06:01	*07:02:01	*12:04:02	SSP SSO NGS	
5130	*24	*68	*07	*51	*07	*12	*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO NGS	
5133							*24:33	*68:01:02:01	*07:02:01	*51:06:01	*07:02:01	*12:04:02	NGS	
5214	*24	*68	*07	*51	*07	*12							SSO	
5219	*24	*68	*07	*51	*07	*12	*24:33	*68:01:02	*07:02:01	*51:06:01	*07:02:01	*12:04:02	SSO NGS	
5451													SSO SBT	
5462	*24	*68	*07	*51	*07	*12	NT	NT	NT	NT	NT	NT	SSO	
5488							*24:33	*68:01:02	*07:02:01	*51:06:01	*07:02:01	*12:04:02	SSO SBT NGS	A*68:152
8021							*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO NGS	
8029	*24	*68	*07	*51	*07	*12							SSO	
8042			*07	*51									SSO	
8068	*24	*68	*07	*51	*07	*12							SSO	
8086							*24:33	*68:01	*07:02	*51:06	*07:02	*12:04	SSO SBT	

Table 5a: Individual laboratory results for B-cell #568 - Class II

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
278	*07	*15	4*01N	5*01	*01	*02	*03	*06	*01	*01	*04	*04	SSP SSO	
725	*07	*15	4*NULL	5*PRESENT	*01	*02	*03	*06					SSP SSO	
731	*07	*15			*01	*02	*03	*06	*01	*01	*04		SSP SSO SBT	
735	*07	*15	4*01N	5*01	*01	*02	*03	*06	*01	*01	*04(DP401)	*04(DP401)	SSP SSO SBT	
747	*07	*15	4*01	5*01	*01	*02	*03	*06	*01	*01	*04		SSP SSO NGS	
771	*07	*15			*01	*02	*03	*06					SSP SSO	
774	*07	*15	4*01	5*01	*01	*02	*03	*06			*04(DP401)		SSP SSO	
792	*07	*15	4*01N	5*01	*01	*02	*03	*06	*01	*01	*04	*04	SSO SBT	
793	*07	*15		5*PRESENT	*01	*02	*03	*06			*04(DP401)		SSP	
794	*07	*15	4*01N	5*01	*01	*02	*03	*06	*01		*04		SSP SSO NGS	
2400	*07	*15	4*01N	5*01	*01	*02	*03	*06	NT	NT	*04		RT-PCR	
2847	*07	*15											SSO NGS	
3519	*07	*15			*01	*02	*03	*06	*01		*04		SSO	
3632	*07	*15	4*01N	5*01	*01	*02	*03	*06	*01		*04		SSP NGS RT-PCR	
3966													SSP SSO	
4079	*07	*15	4*01	5*01	*01	*02	*03	*06	*01		*04		SSP	
4251	*07	*15	4*01N	5*01	*01	*02	*03	*06	*01	*01	*04(DP401)	*04(DP401)	SSP SSO NGS	
4492	*07	*15	4*NULL	5*PRESENT	*01	*02	*03	*06	*01		*04(DP401)		SSO NGS	
5130	*07	*15	4*01	5*01	*01	*02	*03	*06			*04	*04	SSP SSO NGS	
5214	*07	*15	4*01N	5*01	*01	*02	*03(DQ9)	*06	*01		*04(DP401)		SSO	
5219	*07	*15					*03	*06			*04	*04	SSO NGS	
5451	*07	*15	4*01N	5*01	*01	*02	*03	*06					SSO SBT	
5462	*07	*15	4*01N	5*01	*01	*02	*03	*06	*01		*04(DP401)		SSO	
5488								*06					SSO SBT NGS	
5642	*07	*15	4*PRESENT	5*PRESENT			*03	*06					SSP	
6649	*07	*15											SSO	
8001	*07	*15	4*01N	5*01	*01	*02	*03	*06					SSO	
8029	*07	*15			*01	*02	*03	*06					SSP SSO	
8043	*07	*15			*01	*02	*03	*06					SSO	
8068	*07	*15			*01	*01	*03	*06					SSP SSO	

Table 5b: Individual laboratory results for B-cell #568 - Class II

Center	High resolution												METHOD	Other Alleles
	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1			
230	*07:01	*15:07					*03:03	*06:02			*04:01	*04:01	SSO SBT NGS	
278	*07:01	*15:07	4*01:03N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03	*01:03	*04:01	*04:01	SSP SSO	
731	*07:01	*15:07:01					*03:03	*06:02					SSP SSO SBT	DPB1*215:01
735	*07:01P	*15:07	4*01:03N	5*01:01P	*01:02	*02:01	*03:03P	*06:02P	*01:03P	*01:03P	*04:01	*04:01	SSP SSO SBT	
747	*07:01:01	*15:07:01	4*01:03:01:02N	5*01:01:01	*01:02:01	*02:01:01	*03:03:02:01	*06:02:01:01	*01:03:01:02	*01:03:01:04	*04:01:01:02		SSP SSO NGS	DPB1*04:01:01:01
762	*07:01:01:02	*15:07:01	4*01:03:01:02N	5*01:01:01	*01:02:01	*02:01:01	*03:03:02:01	*06:02:01:01	*01:03:01:02	*01:03:01:04	*04:01:01:01		NGS	
771	*07:01	*15:07					*03:03	*06:02					SSP SSO	
774	*07:01	*15:07	4*01:03:01:02N	5*01:01	*01:02	*02:01	*03:03	*06:02			*04:01		SSP SSO	DRB1*07:31 DRB1*07:33 DRB5*01:16
792	*07:01	*15:07					*03:03	*06:02			*04:01	*04:01	SSO SBT	
793					*01:02	*02:01					*04:01		SSP	
794	*07:01:01	*15:07:01	4*01:03:01N	5*01:01:01	*01:02	*02:01	*03:03:02	*06:02:01	NT	NT	*04:01:01		SSP SSO NGS RT-PCR	DRB1*07:79
2344	*07:01:01	*15:07:01					*03:03:02	*06:02:01			*04:01:01	*04:01:01	OTHER	
2400	*07:01	*15:07	4*01:03N	5*01:01	*01:02	*02:01	*03:03	*06:02			*04:01		SSO NGS	
3135	*07:01	*15:07	4*01:03N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03		*04:01			
3224	*07:01	*15:07	4*01:03:01:02N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03		*04:01:01G		NGS	
3511	*07:01	*15:07	4*01:03:01N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03	*01:03	*04:01	*04:01	SSP SSO	
3519	*07:01	*15:07	4*01:03N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03		*04:01		SSP NGS RT-PCR	
3632	*07:01	*15:07	4*01:03N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03		*04:01		SSP SSO	
3753	*07:01:01	*15:07:01	4*01:03:01N	5*01:01:01	*01:02:01	*02:01:01	*03:03:02	*06:02:01	*01:03:01	*01:03:01	*04:01:01	*04:01:01	NGS	
3966	*07:01	*15:07	4*01:03:01:02N	5*01:01			*03:03	*06:02					SSP	
4079	*07:01	*15:07	4*01:03:01:02N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03		*04:01		SSP SSO NGS	
4251	*07:01:01G	*15:07	4*01:03N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03	*01:03	*04:01	*04:01	SSO NGS	
4337	*07:01	*15:07					*03:03	*06:02			*04:01	*04:01	SSP SBT NGS	
4492	*07:01:01	*15:07:01	4*01:03:01:02N	5*01:01:01	*01:02:01	*02:01:01	*03:03:02:01	*06:02:01:01	*01:03:01:02	*01:03:01:04	*04:01:01	*04:01:01	SSP SSO NGS	DRB5*01:40 DRB1*07:79 DRB1*07:93 DQB1*06:02:36
5130	*07:01	*15:07	4*01:03:01:02N	5*01:01	*01:02	*02:01	*03:03	*06:02			*04:01	*04:01	SSO NGS	
5133	*07:01:01	*15:07:01	4*01:03:01:02N	5*01:01:01	*01:02:01	*02:01:01	*03:03:02	*06:02:01	*01:03:01		*04:01:01		NGS	DQB1*06:02:36 DPA1*01:14 DRB5*01:40 DRB1*07:93 DRB1*07:79
5219	*07:01:01	*15:07:01					*03:03:02	*06:02:01			*04:01:01	*04:01:01	SSO NGS	
5451	*07:01:01	*15:07:01											SSO SBT	

Table 5b: Individual laboratory results for B-cell #568 - Class II

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
														DPB1*643:01 DPB1*658:01 DPB1*670:01 DPB1*677:01 DPB1*679:01 DPB1*682:01 DPB1*683:01 DPB1*742:01 DPB1*743:01N DPB1*747:01 DPB1*748:01N DPB1*750:01 DPB1*753:01 DPB1*754:01N DPB1*755:01 DPB1*803:01 DPB1*804:01 DPB1*806:01 DPB1*811:01 DPB1*812:01 DPB1*813:01 DPB1*814:01 DPB1*820:01 DPB1*824:01 DPB1*828:01 DPB1*838:01N DPB1*840:01 DPB1*842:01 DPB1*844:01N DPB1*849:01 DPB1*850:01 DPB1*852:01 DPB1*859:01 DPB1*867:01N DPB1*868:01N DPB1*871:01N DPB1*882:01 DPB1*921:01 +
5462	NT	NT	NT	NT	NT	NT	NT	NT	NT			*04:01	SSO	
5488	*07:01:01	*15:07:01	4*01:03:01:02N	5*01:01:01	*01:02	*02:01	*03:03		*01:03:01			*04:01:01	SSO SBT NGS	DQB1*06:237
5642	*07:01	*15:07					*03:03	*06:02					SSP	
8001	*07:01	*15:07	4*01:03:01:02N	5*01:01			*03:03	*06:02				*04:01		
8021	*07:01	*15:07	4*01:03:01:02N	5*01:01	*01:02	*02:01	*03:03	*06:02	*01:03			*04:01	SSO NGS	
8043	*07:01	*15:07			*01:02	*02:01	*03:03	*06:02					SSP SSO	
8086	*07:01	*15:07			*01:02	*02:01	*03:03	*06:02	*01:03	*01:03	*04:01	*04:01	SSO SBT	

Table 6: Individual laboratory results for B-cell #568 - 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	*26:01	*27:05	*57:01	*06:02	*07:04	SSO SBT NGS	
278	*03	*26	*27	*57	*06	*07	*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSP SSO	
725	*03	*26	*27	*57	*06	*07							SSP SSO	
731	*03	*26	*27	*57	*06	*07							SSP SSO SBT	
735	*03	*26	*27	*57	*06	*07	*03:01P	*26:01P	*27:05P	*57:01P	*06:02P	*07:04P	SSP SSO SBT	
747	*03	*26	*27	*57	*06	*07	*03:01:01:01	*26:01:01:01	*27:05:02	*57:01:01:01	*06:02:01:01	*07:04:01:01	SSP SSO NGS	
774	*03	*26	*27	*57	*06	*07							SSP SSO	
792	*03	*26	*27	*57	*06	*07	*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSO SBT	
793	*03	*26	*27	*57	*06	*07							SSP	
794	*03	*26	*27	*57	*06	*07	*03:01:01	*26:01:01	*27:05:02	*57:01:01	*06:02:01	*07:04:01	SSP SSO NGS RT-PCR	
2344							*03:01:01	*26:01:01	*27:05:02	*57:01:01	*06:02:01	*07:04:01	OTHER	
2400	*03	*26	*27	*57	*06	*07	*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSO NGS	
2847	*03	*26	*27	*57	*06	*07							SSO	
3135							*03:01	*26:01	*27:05	*57:01	*06:02	*07:04		
3224							*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	NGS	
3511							*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSP SSO	
3519	*03	*26	*27	*57	*06	*07	*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSP NGS RT-PCR	
3753							*03:01:01	*26:01:01	*27:05:02	*57:01:01	*06:02:01	*07:04:01	NGS	
3966	*03	*26	*27	*57	*06	*07							SSP	
4079	*03	*26	*27	*57	*06	*07	*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSP SSO NGS	
4251	*03	*26	*27	*57	*06	*07	*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSO NGS	
4337							*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSP SBT NGS	
4492	*03	*26	*27	*57	*06	*07	*03:01:01:01	*26:01:01:01	*27:05:02	*57:01:01:01	*06:02:01:01	*07:04:01	SSP SSO NGS	
5130	*03	*26	*27	*57	*06	*07	*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSO NGS	
5133							*03:01:01:01	*26:01:01:01	*27:05:02	*57:01:01:01	*06:02:01:01	*07:04:01	NGS	
5214	*03	*26	*27	*57	*06	*07							SSO	
5219	*03	*26	*27	*57	*06	*07	*03:01:01	*26:01:01	*27:05:02	*57:01:01	*06:02:01	*07:04:01	SSO NGS	
5451													SSO SBT	
5462	*03	*26	*27	*57	*06	*07	NT	NT	NT	NT	NT	NT	SSO	
5488							*03:01:01	*26:01:01	*27:05:02	*57:01:01	*06:02:01	*07:04:01	SSO SBT NGS	
8021							*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSO NGS	
8029	*03	*26	*27	*57	*06	*07							SSO	
8042			*27	*57									SSO	
8068	*03	*26	*27	*57	*06	*07							SSO	
8086							*03:01	*26:01	*27:05	*57:01	*06:02	*07:04	SSO SBT	

CELL EXCHANGE #413

The results for Cell Exchange #413 are summarized in Table 7 and Table 8. Molecular typing results for individual laboratories are listed in Tables 9 -12 for each sample and individual serological results for each sample are listed

in Table 13. The haplotype frequencies used in this report are from the NMDP Bioinformatics website, <https://bioinformatics.bethematchclinical.org/>.

Cell 1649. The reported consensus for this cell from a Chinese donor was A*02:01(A2)-A*24:02(A24)-B*39:01(B39)-B*54:01(B54)-C*01:02-C*07:02. Likely associations present were A*02:01-B*54:01-C*01:02 and A*24:02-B*39:01-C*07:02, observed in Asians, with respective HF = 0.00881 and 0.00239.

Good agreement was achieved among DNA labs in the reporting of the class I specificities for this sample. Among the labs reporting at high resolution, 4 assigned A*02:01:01, A*24:02:01, B*39:01:01, C*01:02:01, and C*07:02:01. B*54:01:01 was reported by 5 labs. Serological assignments were reported as A2 (100%), A24 (100%), B39 (88%), and B54 (88%).

Cell 1650. The reported consensus for this cell from a Filipino donor was A*02:01(A2)-A*11:01(A11)-B*15:13(B77)-B*38:02(B38)-C*07:02-C*08:01. The likely associations present in this cell were B*38:02-C*07:02 and B*15:13-C*08:01, observed in Asians, with HF = 0.03576 and 0.00171.

Good agreement was achieved among DNA labs in the reporting of class I assignments, with A*02:01:01, A*11:01:01, C*07:02:01, and C*08:01:01 each assigned by 4 labs. B*38:02:02 was reported by 5 labs. Good agreement was also achieved among labs reporting by serology, as A2 (100%), A11 (100%), B77 (89%), and B38 (100%) were reported.

Cell 1651. The reported consensus for this cell from a Caucasian donor was A*02:05(A2)-A*11:01(A11)-B*49:01(B49)-B*51:01(B51)-C*03:03-C*07:01. Likely associations present in this cell were A*02:05-B*49:01-C*07:01 and A*11:01-B*51:01-C*03:03, with respective HF = 0.00141 and 0.00077.

Good agreement was achieved among DNA labs in the reporting of class I types for this sample. Among the labs reporting at high resolution, 3 labs assigned A*02:05:01:01, A*11:01:01, B*49:01:01, B*51:01:01, C*03:03:01, and C*07:01:01. Serological assignments were reported as A2 (100%), A11 (100%), B49 (88%), and B51 (100%).

Cell 1652. The reported consensus for this cell from an Asian Indian donor was A*31:12(A31)-A*68:01(A68)-B*15:01(B62)-B*15:18(B70)-C*03:03-C*07:04. The likely associations present were B*15:01-C*03:03 and B*15:18-C*07:04, observed in Asians, with respective HF = 0.01098 and 0.00455.

This cell was previously examined as cell 1594 (2017). In this present re-typing, good agreement was once again achieved in the reporting of the class I types for this cell. A*68:01:02, B*15:01:01, C*03:03:01, and C*07:04:01 were each reported by 3 labs, while B*15:01:01 and B*15:18:01 were each reported by 4 labs. A31 (100%), A68 (86%), B62 (86%), and B70 (86%) were well assigned by serology, with 2 labs assigning B71 as the B70 split.

Table 7. Summary of the 413th Cell Exchange (Cell #1649-1652)

DNA typing

Cell 1649	
14 low/11 high labs - A	%(n)
A*02:01:01:01	27(3)
A*02:01:01	9 (1)
A*02:01:01G	9 (1)
A*02:01	55(6)
A*02	100(14)
14 low/11 high labs - A	%(n)
A*24:02:01:01	27(3)
A*24:02:01	9 (1)
A*24:02P	9 (1)
A*24:02	55(6)
A*24	100(14)
14 low/11 high labs - B	%(n)
B*39:01:01:03	18(2)
B*39:01:01	18(2)
B*39:01:01G	9 (1)
B*39:01P	9 (1)
B*39:01	46(5)
B*39	100(14)
14 low/11 high labs - B	%(n)
B*54:01:01	45(5)
B*54:01	54(6)
B*54	100(14)
13 low/11 high Labs - C	%(n)
C*01:02:01	36(4)
C*01:02:01G	9 (1)
C*01:02	55(6)
C*01	100(13)
13 low/11 high Labs - C	%(n)
C*07:02:01:15	9 (1)
C*07:02:01	27(3)
C*07:02:01G	9 (1)
C*07:02	55(6)
C*07	100(13)

Cell 1650	
15 low/12 high labs - A	%(n)
A*02:01:01:01	25(3)
A*02:01:01	8 (1)
A*02:01:01G	8 (1)
A*02:01	58(7)
A*02	100(15)
15 low/12 high labs - A	%(n)
A*11:01:01:01	25(3)
A*11:01:01	8 (1)
A*11:01:01G	8 (1)
A*11:01	58(7)
A*11	100(15)
15 low/13 high labs - B	%(n)
B*15:13:01	38(5)
B*15:13	62(8)
B*15(B77)	13(2)
B*15	87(13)
15 low/13 high labs - B	%(n)
B*38:02:02	38(5)
B*38:02	62(8)
B*38	100(15)
14 low/12 high Labs - C	%(n)
C*07:02:01:01	8 (1)
C*07:02:01	25(3)
C*07:02:01G	8 (1)
C*07:02	58(7)
C*07	100(14)
14 low/12 high Labs - C	%(n)
C*08:01:01:01	25(3)
C*08:01:01	8 (1)
C*08:01:01G	8 (1)
C*08:01	58(7)
C*08	100(14)

Cell 1651	
14 low/11 high labs - A	%(n)
A*02:05:01:01	27(3)
A*02:05	73(8)
A*02	100(14)
14 low/11 high labs - A	%(n)
A*11:01:01:01	18(2)
A*11:01:01	9 (1)
A*11:01:01G	9 (1)
A*11:01	64(7)
A*11	100(14)
14 low/10 high labs - B	%(n)
B*49:01:01	30(3)
B*49:01:01G	10(1)
B*49:01	60(6)
B*49	100(14)
14 low/10 high labs - B	%(n)
B*51:01:01:01	10(1)
B*51:01:01	20(2)
B*51:01:01G	10(1)
B*51:01P	20(2)
B*51:01	40(4)
B*51	100(14)
13 low/11 high Labs - C	%(n)
C*03:03:01	27(3)
C*03:03:01G	9(1)
C*03:03	64(7)
C*03(C9)	15(2)
C*03	85(11)
13 low/11 high Labs - C	%(n)
C*07:01:01	27(3)
C*07:01:01G	9 (1)
C*07:01	64(7)
C*07	100(13)

Cell 1652	
12 low/10 high labs - A	%(n)
A*31:12	100(10)
A*31	100(12)
12 low/10 high labs - A	%(n)
A*68:01:02:01	30(3)
A*68:01:02G	10(1)
A*68:01P	10(1)
A*68:01	50(5)
A*68	100(13)
13 low/10 high labs - B	%(n)
B*15:01:01:01	30(3)
B*15:01:01	10(1)
B*15:01:01G	10(1)
B*15:01P	10(1)
B*15:01	40(4)
B*15(B62)	15(2)
B*15	85(11)
13 low/11 high labs - B	%(n)
B*15:18:01	36(4)
B*15:18	64(7)
B*15(B71)	15(2)
B*15	85(11)
12 low/10 high labs - C	%(n)
C*03:03:01	30(3)
C*03:03:01G	10(1)
C*03:03	60(6)
C*03(C9)	17(2)
C*03	83(10)
12 low/10 high labs - C	%(n)
C*07:04:01	30(3)
C*07:04:01G	10(1)
C*07:04	60(6)
C*07	100(12)

Table 8. Summary of the 413th Cell Exchange (Cell #1649 - 1652)

Serological typing							
(Chinese) Cell 1649 (8 Samples Typed)		(Filipino) Cell 1650 (9 Samples Typed)		(Caucasian) Cell 1651 (8 Samples Typed)		(Asian Indian) Cell 1652 (7 Samples Typed)	
A2	100.0%	A2	100.0%	A2	100.0%	A31	100.0%
	[100.0%]		[100.0%]		[100.0%]		[100.0%]
A24	100.0%	A11	88.9%	A11	87.5%	A68	85.7%
	[100.0%]	A11.1	11.1%	A11.1	12.5%	A28	14.3%
			[100.0%]		[100.0%]		[100.0%]
B39	87.5%	B77	88.9%	B49	87.5%	B62	85.7%
	[87.5%]	B15	11.1%	B21	12.5%	B15	14.3%
			[100.0%]		[100.0%]		[100%]
B54	87.5%	B38	100.0%	B51	100.0%	B71	28.6%
B22	12.5%		[100.0%]		[100.0%]	B70	57.1%
	[100.0%]						[85.7%]
Cw1	37.5%	Cw7	33.3%	Cw7	25.0%	Cw7	28.6%
Cw7	37.5%	Cw8	33.3%				
Bw6	100.0%	Bw4	100.0%	Bw4	100.0%	Bw6	100.0%
Others Found		Others Found		Others Found		Others Found	
B67	12.5%			Cw3	25.0%	Cw3	28.6%

Table 9a. Individual laboratory results for Cell #1649 - Class I

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*24	*39	*54	*01	*07	*02:01	*24:02	*39:01	*54:01	*01:02	*07:02	SSP SSO	
725	*02	*24	*39	*54	*01	*07							SSO	
731	*02	*24	*39	*54	*01	*07	*02:01	*24:02	*39:01:01G	*54:01:01	*01:02	*07:02	SSP SSO SBT	
745							*02:01:01:01	*24:02:01:01	*39:01:01	*54:01:01	*01:02:01	*07:02:01	SSP SBT NGS	
747	*02	*24	*39	*54	*01	*07	*02:01:01:01	*24:02:01:01	*39:01:01:03	*54:01:01	*01:02:01	*07:02:01:15	SSP SSO NGS	
762							*02:01:01:01	*24:02:01:01	*39:01:01:03	*54:01:01	*01:02:01	*07:02:01	NGS	
771	*02	*24	*39	*54	*01	*07	*02:01	*24:02	*39:01	*54:01	*01:02	*07:02	SSO SBT	
774	*02	*24	*39	*54	*01	*07							SSO	
3186	*02	*24	*39	*54	*01	*07							SSO	
3545	*02	*24	*39	*54	*01	*07	*02:01	*24:02	*39:01	*54:01	*01:02	*07:02	SSP SSO SBT	
3632	*02	*24	*39	*54	*01	*07	*02:01	*24:02	*39:01	*54:01	*01:02	*07:02	SSP SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP SSO	
4251	*02	*24	*39	*54	*01	*07	*02:01:01G	*24:02P	*39:01	*54:01	*01:02:01G	*07:02:01G	SSO SBT	
5133							*02:01:01	*24:02:01	*39:01:01	*54:01:01	*01:02:01	*07:02:01	NGS	
5214	*02	*24	*39	*54	*01	*07							SSO	
5462	*02	*24	*39	*54	*01	*07	*02:01	*24:02	*39:01P	*54:01	*01:02	*07:02	SSO NGS	
6649	*02	*24	*39	*54									SSO	
8001	*02	*24	*39	*54	*01	*07							SSO	

Table 9b: Individual laboratory results for Cell #1649 - Class II														
Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
3186	*08	*12	3*01	NP	*01	*06	*03	*06	*02	*02	*05	*05	SSO	

Table 10a. Individual laboratory results for Cell #1650 - Class I

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*11	*15	*38	*07	*08	*02:01	*11:01	*15:13	*38:02	*07:02	*08:01	SSP SSO	
725	*02	*11	*15	*38	*07	*08							SSO	
731	*02	*11	*15	*38	*07	*08	*02:01	*11:01	*15:13:01	*38:02:02	*07:02	*08:01	SSP SSO SBT	
745							*02:01:01:01	*11:01:01:01	*15:13:01	*38:02:02	*07:02:01	*08:01:01:01	SSP SBT NGS	
747	*02	*11	*15	*38	*07	*08	*02:01:01:01	*11:01:01:01	*15:13:01	*38:02:02	*07:02:01:01	*08:01:01	SSP SSO NGS	
762							*02:01:01:01	*11:01:01:01	*15:13:01	*38:02:02	*07:02:01	*08:01:01:01	NGS	
771	*02	*11	*15	*38	*07	*08	*02:01	*11:01	*15:13	*38:02	*07:02	*08:01	SSO SBT	
774	*02	*11	*15	*38	*07	*08			*15:13	*38:02			SSP SSO	B*38:18 B*38:15
3186	*02	*11	*15	*38	*07	*08							SSO	
														A*02:740 A*02:742 A*02:744 A*02:753 A*02:761 A*02:762 A*02:763 A*02:629 A*02:642 A*02:665 A*02:686 A*02:689 A*02:704 A*02:716 A*02:719 A*02:722 A*02:724 A*02:765 A*02:776 A*02:779 A*02:786 A*02:792N A*02:795 A*02:810 A*02:812 A*02:819 A*11:263 A*11:270 A*11:278 A*11:280 A*11:295 A*11:303 A*11:306 C*07:50 C*07:349 C*07:566 C*07:592 C*07:594 C*07:595 C*07:596 C*07:612 C*07:665 C*07:666 C*07:667 C*07:684 C*07:688 C*07:703 C*07:704 C*07:722 C*08:22 C*08:99 C*08:102 C*08:178
3545	*02	*11	*15	*38	*07	*08	*02:01	*11:01	*15:13	*38:02	*07:02	*08:01	SSP SSO SBT	
3632	*02	*11	*15	*38	*07	*08	*02:01	*11:01	*15:13	*38:02	*07:02	*08:01	SSP SSO	
4079	*02	*11	*15	*38	*07	*08	*02:01	*11:01	*15:13	*38:02	*07:02	*08:01	SSP SSO	A*02:704 A*02:719 A*02:742 A*11:278 C*08:127N
4251	*02	*11	*15	*38	*07	*08	*02:01:01G	*11:01:01G	*15:13	*38:02	*07:02:01G	*08:01:01G	SSO SBT	
5133							*02:01:01	*11:01:01	*15:13:01	*38:02:02	*07:02:01	*08:01:01:01	NGS	
5214	*02	*11	*15(B77)	*38	*07	*08							SSO	
5462	*02	*11	*15	*38	*07	*08	*02:01	*11:01	*15:13	*38:02	*07:02	*08:01	SSO NGS	
6649	*02	*11	*15	*38									SSO	
8001	*02	*11	*15(B77)	*38	*07	*08							SSO	

Table 10b: Individual laboratory results for Cell #1650 - Class II														
Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
3186	15	15	5*01	5*01N	*01	*01	*05	*05	*02	*02	*01	*13	SSO	

Table 11a. Individual laboratory results for Cell #1651 - Class I

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*11	*49	*51	*03	*07	*02:05	*11:01	*49:01	*51:01	*03:03	*07:01	SSP SSO	
725	*02	*11	*49	*51	*03	*07							SSO	
731	*02	*11	*49	*51	*03	*07	*02:05	*11:01	*49:01:01G	*51:01:01G	*03:03	*07:01	SSP SSO SBT	
745							*02:05:01:01	*11:01:01:01	*49:01:01	*51:01:01	*03:03:01	*07:01:01	SSP SBT NGS	
747	NT												SSP SSO NGS	
762							*02:05:01:01	*11:01:01:01	*49:01:01	*51:01:01:01	*03:03:01	*07:01:01	NGS	
771	*02	*11	*49	*51	*03	*07	*02:05	*11:01	*49:01	*51:01	*03:03	*07:01	SSO SBT	
774	*02	*11	*49	*51	*03	*07							SSP SSO	
3186	*02	*11	*49	*51	*03	*07							SSO	
														B*51:260 A*11:263 A*11:270 A*11:278 A*11:280 A*11:295 A*11:303 A*11:306 B*51:193 B*51:224 B*51:230 B*51:232 C*03:20N C*03:227 C*03:341 C*03:357 C*03:372 C*03:383 C*07:06 C*07:18 C*07:343 C*07:419 C*07:458 C*07:591 C*07:610 C*07:615 C*07:617 C*07:618 C*07:619 C*07:657 C*07:682 C*07:687 C*07:696 C*07:721 B*51:248 B*51:249 B*51:250 B*51:262 C*03:418 C*03:421N C*03:460
3545	*02	*11	*49	*51	*03	*07	*02:05	*11:01	*49:01	*51:01	*03:03	*07:01	SSP SSO SBT	
3632	*02	*11	*49	*51	*03	*07	*02:05	*11:01	*49:01	*51:01	*03:03	*07:01	SSP SSO	
4079	*02	*11	*49	*51	*03	*07	*02:05	*11:01	NT	NT	*03:03	*07:01	SSP SSO	
4251	*02	*11	*49	*51	*03	*07	*02:05	*11:01:01G	*49:01	*51:01P	*03:03:01G	*07:01:01G	SSO SBT	
5133							*02:05:01:01	*11:01:01	*49:01:01	*51:01:01	*03:03:01	*07:01:01	NGS	
5214	*02	*11	*49	*51	*03(C9)	*07							SSO	
5462	*02	*11	*49	*51	*03	*07	*02:05	*11:01	*49:01	*51:01P	*03:03	*07:01	SSO NGS	B*51:289
6649	*02	*11	*49	*51									SSO	
8001	*02	*11	*49	*51	*03(C9)	*07							SSO	

Table 11b: Individual laboratory results for Cell #1651 - Class II														
Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
3186	*03	*04	4*01	3*01	*03	*05	*02	*03	*01	*02	*04	*14	SSO	

Table 12a. Individual laboratory results for Cell #1652 - Class I

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*31	*68	*15	*15	*03	*07	*31:12	*68:01	*15:01	*15:18	*03:03	*07:04	SSP SSO	
725	*31	*68	*15	*15	*03	*07							SSO	
731	*31	*68	*15	*15	*03	*07	*31:12	*68:01:02G	*15:01:01	*15:18:01	*03:03	*07:04	SSP SSO SBT	
745							*31:12	*68:01:02:01	*15:01:01:01	*15:18:01	*03:03:01	*07:04:01	SSP SBT NGS	
747	NT												SSP SSO NGS	
762							*31:12	*68:01:02:01	*15:01:01:01	*15:18:01	*03:03:01	*07:04:01	NGS	
771	*31	*68	*15	*15	*03	*07	*31:12	*68:01	*15:01	*15:18	*03:03	*07:04	SSO SBT	
774	*31	*68	*15	*15	*03	*07				*15:18			SSP SSO	B*15:134 B*15:80 B*15:263 B*15:307 B*15:314 B*15:197 B*15:198
3186	*31	*68	*15	*15	*03	*07							SSO	
3545	*31	*68	*15	*15	*03	*07	*31:12	*68:01	*15:01	*15:18	*03:03	*07:04	SSP SSO SBT	
3632	*31	*68	*15	*15	*03	*07	*31:12	*68:01	*15:01	*15:18	*03:03	*07:04	SSP SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP SSO	
4251	*31	*68	*15	*15	*03	*07	*31:12	*68:01P	*15:01:01G	*15:18	*03:03:01G	*07:04:01G	SSO SBT	
5133							*31:12	*68:01:02:01	*15:01:01:01	*15:18:01	*03:03:01	*07:04:01	NGS	
5214	*31	*68	*15(B62)	*15(B71)	*03(C9)	*07							SSO	
5462	*31	*68	*15	*15	*03	*07	*31:12	*68:01	*15:01P	*15:18	*03:03	*07:04	SSO NGS	
6649	*31	*68	*15	*15									SSO	
8001	*31	*68	*15(B62)	*15(B71)	*03(C9)	*07							SSO	

Table 12b: Individual laboratory results for Cell #1652 - Class II														
Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
3186	*04	15	4*01	5*01	*01	*03	*03	*06	*01	*02	*04	*04	SSO	

Table 13. Individual laboratory results for Cell #1649-1652 by serology

Investigator	Days Old	Viab %	Cell No 1649 (Chinese)								Cell No 1650 (Filipino)								Cell No 1651 (Caucasian)								Cell No 1652 (Asian Indian)									
			A2	A24	B39	B54	Cw1	Cw7	Bw6	OTHERS	Viab %	A2	A11	B77	B38	Cw7	Cw8	Bw4	OTHERS	Viab %	A2	A11	B49	B51	Cw7	Cw9	Bw4	OTHERS	Viab %	A31	A68	B62	B71	Cw7	Cw9	Bw6
Cecka, J. Mic	3	>95	+	+	+	+			+	>95	+	+	+	+			+	>95	+	+	+	+				+	>95	+	+	+	+				+	
Fort, Marylis	3	NT							NT	98	+	+	+	+			+	98	+	+	+	+				+	NT								NT	
Gillis, David		90	+	+	+	+			+	85	+	+	+	+			+	90	+	+	+	+				+	85	+	+	+	+				+	
Latham, Katy	3	95	+	+	+	+			+	95	+	+	+	+			+	95	+	+	+	+				+	95	+	+	+	+				+	B15
Loewenthal ,		70	+	+	+	+	+	+	+	75	+	+	+	+	+	+	+	80	+	+	+	+	+	Cw3	+	80	+	+	+	B70	+	Cw3	+			
Permpikul, Ve	7	90	+	+		+			B67	90	+	A11.1	+	+			+	90	+	A11.1	+	+				+	90	+	+	+	B70			+		
Renac, Virgin	3	100	+	+	+	B22			+	100	+	+	B15	+			+	100	+	+	B21	+				+	100	+	A28	B15	B70			+		
Vidan-Jeras,	7	100	+	+	+	+	+	+		100	+	+	+	+	+	+	+	100	+	+	+	+	+	Cw3	+	100	+	+	+	B70	+	Cw3	+			
Villard, Jean	7	60	+	+	+	+	+	+		60	+	+	+	+	+	+	+																			

SERUM EXCHANGE #571

The results for **Serum Exchange 571 (sera 1277 - 1280)**, are summarized in Tables 14 - 19 and individual laboratory results by method are listed

in Tables 20 - 30. Sera strongly positive to B13, A29, A9 (A23, A24), and to a number of DR and DP specificities were observed in this study.

1277	method	#labs	NEG	B27	B48	B8	B59	B73	B65	B7	B2708	B46	B81	B82	B38	B64	Cw8	B56	B61	B42	B13	B60	B71
class I	NIH-Ext	2	100%																				
	AHG	1	NEG																				
	Luminex	26		96%	50%	46%	42%	42%	38%	38%	35%	35%	35%	35%	31%	27%	27%	19%	19%	15%	12%	12%	12%
	Flow	3	no specificities assigned																				
	C1q	1	NEG																				
	Other	1	undetermined																				

1277	method	#abs	NEG	DP19	DP28	DR8	DP15	DP10	DP20	DR1	DR12	DR16	DR14	DR4	DR52	DR15
class II	NIH-Ext	1	undetermined													
	Luminex	27	40%	60%	60%	60%	60%	55%	55%	55%	55%	55%	55%	50%	50%	40%
	Flow	3	no specificities assigned													
	Other	1	NEG													
1277	method	#abs	DR17	DR18	DR11	DR9	DP13	DQ2	DQ4	DQ6	DR13	DPw5	DQ8	DR51	DPA1*01	DPA1*03
	Luminex	27	40%	40%	40%	40%	40%	40%	35%	30%	30%	30%	30%	25%	20%	20%

Labs reporting by NIH-Extended, Antiglobulin, and C1q each reported **Serum 1277** as negative for class I. However, class I antibodies were detected by Luminex-single antigen, as anti-B27 *(3568) reactivity was reported by 96%. Allele specific B*27:08 reactivity was reported by some (37%) Luminex labs. The reporting of class II specificities in this sample was mixed

among labs. Luminex-PRA and C1q reported it as negative for class II, along with 40% of labs reporting by Luminex-SAB. The remaining 60% of Luminex-SAB labs, reported weak reactivity to a number of class II specificities, including DR8 (1778), DP19 (4364), DP15 (2678), and DP28 (2326).

*(median MFI)

1278	method	#labs	B13	B27	B2708	B60	B61	B55	B47	B48	B7	B41	B67	B73	B62	B81	B8101	B38	B39	B3901	B8	B76	B75	B42	B72	
class I	NIH-Ext	2	50%			50%	50%	50%																		
	AHG	1	no consensus																							
	Luminex	25	100%	100%	44%	100%	100%	80%	96%	96%	96%	96%	96%	96%	92%	92%	24%	92%	80%	28%	84%	88%	84%	84%	76%	
	Flow	3	no specificities assigned																							
	C1q	1	no consensus																							
	Other	1	no consensus																							
1278	method	#labs	Cw2	B50	B77	A66	A6602	B56	B71	B49	B18	B35	B54	B64	B45	B59	Cw17	B52	B37	B703	B78	B82	B15	B65		
class I	Luminex	25	72%	68%	64%	60%	44%	56%	56%	52%	44%	44%	44%	42%	40%	40%	40%	36%	28%	20%	20%	20%	20%	20%		

1278	method	#labs	DR11	DR7	DPw1	DPw3	DPw5	DPw6	DP11	DP18	DP28	DPw2	DR53	DP13	DP14
class II	NIH-Ext	1	undetermined												
	Luminex	26	100%	100%	96%	96%	96%	96%	92%	92%	92%	92%	92%	88%	88%
	Flow	3	no specificities assigned												
	Other	1	no consensus												
1278	method	#labs	DP17	DP19	DP9	DR9	DP10	DP20	DPw4	DP402	DPA1*02	DP15	DPA1*03	DPA1*04	
	Luminex	26	88%	88%	88%	88%	67%	67%	63%	46%	25%	21%	17%	17%	

For **Serum 1278**, anti-B13 (12754), -B60 (9203), and -B61 (9772) reactivity was reported by all methods, except Flow. Additional reactivity to B38 (2235) and B39 (2220), as well as reactivity to a number of Bw6 and 5C specificities, was reported by Luminex-SAB. One lab reporting by C1q also

detected reactivity to a number of C-locus specificities. Strong anti-DR7 (14110) reactivity, along with reactivity to DR11 (3682) was detected by Luminex-SAB and Luminex-PRA. Additional reactivity to a number of DP antigens was also reported by Luminex-SAB.

1279	method	#abs	A29	A43	B44	B45	B76	A31	A33	A25	A26	A30	A34	B82	B8201	A66	A6601	A6602	A1	A80	B42	B41	A23	A36	B15
class I	NIH-Ext	2	50%																						
	AHG	1	no consensus																						
	Luminex	26	100%	100%	100%	100%	100%	96%	96%	96%	96%	96%	96%	92%	12%	77%	15%	15%	62%	54%	54%	42%	27%	15%	12%
	Flow	3	no specificities assigned																						
	C1q	1	no consensus																						
	Other	1	no consensus																						

1279	method	#abs	DR7	DR9	DR53	DR52	DQ2	DQA1*05	DR12
class II	NIH-Ext	1	undetermined						
	Luminex	27	100%	100%	96%	79%	71%	17%	17%
	Flow	3	no specificities assigned						
	Other	1	no consensus						

Strong class I reactivity was detected in **Serum 1279**, as anti-A29 reactivity, with median MFI = 12611, was reported by all methods, except Flow. In addition, Antiglobulin, C1q, and Luminex detected anti-B44 (7610) and -B45 (7242) reactivity. Reactivity to number of 1C, 10C, and 7C specificities was also reported by Luminex-SAB. One lab reporting by C1q, reported C-locus

reactivity in this sample. Class II reactivity was reported by Luminex-SAB and Luminex-PRA, with each method reporting anti-DR7 (5332), -DR9 (3565), and -DQ2 (2399) reactivity. Additional class II reactivity, including anti-DR53 (2148) reactivity, was also reported by Luminex-SAB.

1280	method	#labs	A23	A24	A2403	A25	A32	B38	B49	B51	B52	B53	B57	B58	B59	A80	B13	B37
class I	NIH-Ext	2	50%	50%														
	AHG	1	no consensus															
	Luminex	25	100%	100%	32%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	96%	96%	96%
	Flow	3	no specificities assigned															
	C1q	1	no consensus															
	Other	1	no consensus															
1280	method	#labs	B44	B47	B63	B77	B27	A2	B76	A68	A1	A69	B35	Bw4	A203	A2C	B15	B78
	Luminex	25	96%	96%	96%	96%	92%	88%	84%	72%	68%	64%	64%	56%	12%	12%	12%	12%

1280	method	#labs	DPw3	DR4	DR53	DR14	DPw6	DP18	DP28	DQ8	DR1	DR10	DR11	DR7	DR9	DPw2	DQ7	DQ9	DP14
class II	NIH-Ext	1	undetermined																
	Luminex	14	96%	96%	96%	96%	96%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	88%
	Flow	3	no specificities assigned																
	Other	1	no consensus																
1280	method	#labs	DP9	DP17	DPw4	DPA1*01	DP10	DP20	DQA1*03	DP19	DPA1*03	DP23	DQ4	DQ2	DQA1*05	DQA1*04	DPw1	DP11	DP402
	Luminex	14	88%	83%	83%	71%	67%	67%	67%	63%	63%	58%	58%	33%	33%	25%	25%	25%	21%

Strong anti-A23 (8802) and –A24 (8846) reactivity was detected in **Serum 1280**, by all methods except Flow. Additional reactivity to 5C and 10C specificities was reported by various methods. Allele specific A*24:03 reactivity was reported by a few (32%) Luminex-SAB labs. Class II reactivity was also

reported in this sample, with Luminex-SAB and Luminex-PRA reporting reactivity to a number of DR and DQ antigens including, DR1, DR4, DR14, DR10, DR11, DQ7, DQ8, and DQ9. Additional reactivity to a number of DP and DQ specificities was also reported by Luminex-SAB.

NEXT MAILING DATE: February 5, 2020

Season's Greetings!

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



Table 14. Summary of the 571st Serum Exchange (Serum #1277-1280) by NIH-Extended - class I

Method: NIH-Extended											
*** Serum 1277 ***			*** Serum 1278 ***			*** Serum 1279 ***			*** Serum 1280 ***		
2 typing Labs			2 typing Labs			2 typing Labs			2 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
NEG	100%	100%	B13	50%	100%	A29	50%	100%	A23	100%	100%
			B61	50%	100%				A24	100%	100%
			B60	50%	75%						
			B55	50%	50%						

Table 15. Summary of the 571st Serum Exchange (Serum #1277-1280) by Antiglobulin and Flow Cytometry - class I

Method: Antiglobulin											
*** Serum 1277 ***			*** Serum 1278 ***			*** Serum 1279 ***			*** Serum 1280 ***		
1 typing Labs			1 typing Labs			1 typing Labs			1 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
NEG	-	-	no consensus			no consensus			no consensus		

Method: Flow Cytometry											
*** Serum 1277 ***			*** Serum 1278 ***			*** Serum 1279 ***			*** Serum 1280 ***		
3 typing Labs			3 typing Labs			3 typing Labs			3 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
no specificities assigned			no specificities assigned			no specificities assigned			no specificities assigned		

Table 16. Summary of the 571st Serum Exchange (Serum #1277-1280) by Other and C1q - class I

Method: Other											
*** Serum 1277 ***			*** Serum 1278 ***			*** Serum 1279 ***			*** Serum 1280 ***		
1 typing Lab			1 typing Lab			1 typing Lab			1 typing Lab		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
Undetermined			No consensus			No consensus			No consensus		

Other = Luminex PRA

Method: C1q											
*** Serum 1277 ***			*** Serum 1278 ***			*** Serum 1279 ***			*** Serum 1280 ***		
1 typing Lab			1 typing Lab			1 typing Lab			1 typing Lab		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
NEG	-	-	no consensus			no consensus			no consensus		

Table 17. Summary of the 571st Serum Exchange (Serum #1277-1280) by Luminex - class I

Method: Luminex											
*** Serum 1277 ***			*** Serum 1278 ***			*** Serum 1279 ***			*** Serum 1280 ***		
26 typing Labs			25 typing Labs			26 typing Labs			25 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
B27	96%	100%	B13	100%	100%	A29	100%	100%	A23	100%	100%
B48	50%	100%	B27	100%	100%	A43	100%	100%	A24	100%	100%
B8	46%	100%	B60	100%	100%	B44	100%	100%	A25	100%	100%
B59	42%	100%	B61	100%	100%	B45	100%	100%	A32	100%	100%
B73	42%	100%	B47	96%	100%	B76	100%	100%	B38	100%	100%
B65	38%	100%	B48	96%	100%	A31	96%	100%	B49	100%	100%
B7	38%	100%	B67	96%	100%	A33	96%	75%	B51	100%	100%
B2708	35%	100%	B7	96%	100%	A25	96%	67%	B52	100%	100%
B46	35%	100%	B73	96%	100%	A26	96%	50%	B53	100%	100%
B81	35%	100%	B41	96%	0%	A30	96%	50%	B57	100%	100%
B82	35%	100%	B62	92%	100%	A34	96%	50%	B58	100%	100%
B38	31%	100%	B81	92%	100%	B82	92%	100%	B59	100%	100%
B64	27%	100%	B38	92%	67%	A66	77%	100%	A80	96%	100%
Cw8	27%	100%	B76	88%	0%	A1	62%	100%	B13	96%	100%
B56	19%	100%	B75	84%	100%	A80	54%	100%	B37	96%	100%
B61	19%	100%	B8	84%	100%	B42	54%	100%	B44	96%	100%
B42	15%	100%	B42	84%	33%	B41	42%	100%	B47	96%	100%
B13	12%	100%	B39	80%	100%	A23	27%	100%	B63	96%	100%
B60	12%	100%	B55	80%	67%	A36	15%	100%	B77	96%	100%
B71	12%	100%	B72	76%	0%	A6601	15%	100%	B27	92%	100%
			Cw2	72%	100%	A6602	15%	100%	A2	88%	80%
			B50	68%	100%	B15	12%	100%	B76	84%	100%
			B77	64%	0%	B8201	12%	100%	A68	72%	100%
			A66	60%	50%				A1	68%	100%
			B56	56%	100%				A69	64%	100%
			B71	56%	100%				B35	64%	100%
			B49	52%	100%				Bw4	56%	100%
			A6602	44%	100%				A2403	32%	100%
			B18	44%	100%				A203	12%	100%
			B2708	44%	100%				A2C	12%	100%
			B35	44%	100%				B15	12%	100%
			B54	44%	100%				B78	12%	100%
			B64	42%	100%						
			B45	40%	100%						

Table 18. Summary of the 571st Serum Exchange (Serum #1277-1280) by NIH-Extended, Flow Cytometry and Other - class II

Method: NIH-Extended															
*** Serum 1277 ***				*** Serum 1278 ***				*** Serum 1279 ***				*** Serum 1280 ***			
1 typing Lab				1 typing Lab				1 typing Lab				1 typing Lab			
Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion	
undetermined				undetermined				undetermined				undetermined			

Method: Flow Cytometry															
*** Serum 1277 ***				*** Serum 1278 ***				*** Serum 1279 ***				*** Serum 1280 ***			
3 typing Labs				3 typing Labs				3 typing Labs				3 typing Labs			
Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion	
no specificities assigned				no specificities assigned				no specificities assigned				no specificities assigned			

Method: Other															
*** Serum 1277 ***				*** Serum 1278 ***				*** Serum 1279 ***				*** Serum 1280 ***			
1 typing Lab				1 typing Lab				1 typing Lab				1 typing Lab			
Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion		Antigen	Consensus	Inclusion	
NEG	-	-		no consensus				no consensus				no consensus			

Table 19. Summary of the 571st Serum Exchange (Serum #1277-1280) by Luminex - class II

Method: Luminex											
*** Serum 1277 ***			*** Serum 1278 ***			*** Serum 1279 ***			*** Serum 1280 ***		
20 typing Labs			24 typing Labs			24 typing Labs			24 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
NEG	40%	-	DR11	100%	100%	DR7	100%	100%	DPw3	96%	100%
DP19	60%	100%	DR7	100%	100%	DR9	100%	100%	DR4	96%	100%
DP28	60%	100%	DPw1	96%	100%	DR53	96%	65%	DR53	96%	100%
DR8	60%	100%	DPw3	96%	100%	DR52	79%	32%	DR14	96%	71%
DP15	60%	33%	DPw5	96%	100%	DQ2	71%	20%	DPw6	96%	50%
DP10	55%	100%	DPw6	96%	100%	DQA1*05	17%	100%	DP18	92%	100%
DP20	55%	100%	DP11	92%	100%	DR12	17%	100%	DP28	92%	100%
DR1	55%	50%	DP18	92%	100%				DQ8	92%	100%
DR12	55%	50%	DP28	92%	100%				DR1	92%	100%
DR16	55%	50%	DPw2	92%	100%				DR10	92%	100%
DR14	55%	33%	DR53	92%	100%				DR11	92%	100%
DR4	50%	40%	DP13	88%	100%				DR7	92%	100%
DR52	50%	33%	DP14	88%	100%				DR9	92%	100%
DR15	40%	100%	DP17	88%	100%				DPw2	92%	92%
DR17	40%	100%	DP19	88%	100%				DQ7	92%	92%
DR18	40%	100%	DP9	88%	100%				DQ9	92%	83%
DR11	40%	50%	DR9	88%	100%				DP14	88%	100%
DR9	40%	50%	DP10	67%	100%				DP9	88%	100%
DP13	40%	33%	DP20	67%	100%				DP17	83%	100%
DQ2	40%	20%	DPw4	63%	71%				DPw4	83%	93%
DQ4	35%	25%	DP402	46%	100%				DPA1*01	71%	100%
DQ6	30%	100%	DPA1*02	25%	100%				DP10	67%	100%
DR13	30%	100%	DP15	21%	100%				DP20	67%	100%
DPw5	30%	50%	DPA1*03	17%	100%				DQA1*03	67%	100%
DQ8	30%	33%	DPA1*04	17%	100%				DP19	63%	100%
DR51	25%	100%							DPA1*03	63%	100%
DPA1*01	20%	100%							DP23	58%	100%
DPA1*03	20%	100%							DQ4	58%	86%
									DQ2	33%	100%
									DQA1*05	33%	100%
									DQA1*04	25%	100%
									DPw1	25%	80%
									DP11	25%	67%
									DP402	21%	100%
									DP13	17%	100%

Table 20. Individual laboratory results for Serum #1277 - 1280 by NIH-Extended - class I

**** Serum 1277 ****					**** Serum 1278 ****					**** Serum 1279 ****					**** Serum 1280 ****						
Ctr	% POS			Other	% POS	B13	B61	B60	B55	Other	% POS	A29			Other	% POS	A23	A24		Other	Method
725	0				21	+	+	+	+		6	+				44	+	+			EXT
3753	0				1						9					41	+	+			EXT

Ext = NIH-Extended

Table 21. Individual laboratory results for Serum #1277-1280 by Antiglobulin and Flow Cytometry - class I

**** Serum 1277 ****					**** Serum 1278 ****																
Ctr	% POS			Other	% POS	B13	B27	B47	B48	B60	B61	B7	B81							Other	Method
774	0				37	+	+	+	+	+	+	+	+								Antiglobulin

**** Serum 1279 ****					**** Serum 1280 ****																		
Ctr	% POS	A29	B44	B45	Other	% POS	A23	A24	A25	A32	B27	B47	B49	B51	B52	B53	B57	B58	B63	Bw4	B44	Other	Method
774	25	+	+	+		80	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Antiglobulin

**** Serum 1277 ****					**** Serum 1278 ****																		
Ctr	% POS			Other	% POS																	Other	Method
3224	16				92																		FC
5214	15				92																		FC
8067	14				89																		FC

**** Serum 1279 ****					**** Serum 1280 ****																			
Ctr	% POS			Other	% POS																		Other	Method
3224	55				82																			FC
5214	87				86																			FC
8067	79				87																			FC

FC =Flow Cytometry

Table 23. Individual laboratory results for Serum #1277 by Luminex - class I

**** Serum 1277 ****																		Method					
Ctr	% POS	B27	B48	B8	B59	B73	B65	B7	B2708	B46	B81	B82	B38	B64	Cw8	B56	B61	B42	B13	B60	B71	Other	Method
615		+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	B39	LMX
725		+							+														LMX
774	5	+							+														LMX
786		+	+	+	+	+	+	+		+	+	+	+	+			+						LMX
910		+	+	+	+	+	+	+			+	+	+										LMX
3224		+	+	+	+	+	+	+	+													B8101,B8201	LMX
3632	24	+	+	+		+																	LMX
3753		+																					LMX
3766	60	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						B8101,B8201	LMX
3808	1	+							+														LMX
3966	4	+	+	+	+	+	+				+	+											LMX
4322		+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	Cw4,Cw6,A66,B47 >	LMX
5214		+																					LMX
5219	2	+							+														LMX
5462		+							+														LMX
6649	2	+																					LMX
8045	0																						LMX
8058	3	+	+					+									+					A2,B40,Bw4,Bw6	LMX
8062		+							+						+								LMX
8082		+							+														LMX
8086	5	+	+	+	+																		LMX
8090		+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	B39,B72	LMX
8098		+							+													B7C	LMX
8100		+	+	+	+	+	+	+		+	+	+	+	+	+	+		+					LMX
8103		+							+														LMX
8112		+	+	+	+	+	+	+		+	+	+	+	+	+								LMX

Table 24. Individual laboratory results for Serum #1278 by Luminex - class I

		**** Serum 1278 ****																																															
Ctr	% POS	B13	B27	B60	B61	B47	B48	B67	B7	B73	B41	B62	B81	B38	B76	B75	B8	B42	B39	B55	B72	Cw2	B50	B77	A66	B56	B71	B49	A6602	B18	B2708	B35	B54	B64	B45	B59	Cw17	B52	B37	B3901	B8101	Other	Method						
615		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B78,B82,B65	LMX				
725		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX		
774	54	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX		
786		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B78,B82,B65,B46	LMX		
910		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX		
3224		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX		
3632	90	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
3753		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
3766	95	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B78,B82,A29,B65 >	LMX		
3808	23	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B15,B703	LMX		
3966	24	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX		
4322	NT																																															LMX	
5214		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
5219	19	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B40,B15,A10,B21 >	LMX	
5462		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
6649	27	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8045	19	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B703	LMX	
8058	15	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B40,B15	LMX	
8062		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Bw6,B7C	LMX	
8082		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B78,B82,B65,B46 >	LMX	
8086	10	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8090		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX
8098		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B703,B12C,B5C,B8C >	LMX	
8100		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX
8103		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B40,B15,B703	LMX	
8112		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B78,B82	LMX

Table 25. Individual laboratory results for Serum #1279 by Luminex - class I

		**** Serum 1279 ****																										
Ctr	% POS	A29	A43	B44	B45	B76	A31	A33	A25	A26	A30	A34	B82	A66	A1	A80	B42	B41	A23	A36	A6601	A6602	B15	B8201	Other	Method		
615		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							LMX	
725		+	+	+	+	+	+	+	+	+	+	+	+														LMX	
774	41	+	+	+	+	+	+	+	+	+	+	+	+														LMX	
786		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							LMX	
910		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							LMX	
3224		+	+	+	+	+	+	+	+	+	+	+	+									+	+		+		LMX	
3632	69	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							LMX	
3753		+	+	+	+	+	+	+	+	+	+	+	+	+	+		+										LMX	
3766	61	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	A24,B61,A74	LMX	
3808	16	+	+	+	+	+	+	+	+	+	+	+	+														LMX	
3966	14	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+										LMX	
4322		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									LMX	
5214		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											LMX	
5219	14	+	+	+	+	+	+	+	+	+	+	+	+											+		A10,A19,B12	LMX	
5462		+	+	+	+	+	+	+	+	+	+	+	+	+	+							+	+		+		LMX	
6649	18	+	+	+	+	+	+	+	+	+	+	+	+	+	+												LMX	
8045	17	+	+	+	+	+	+	+	+	+	+	+	+	+													LMX	
8058	16	+	+	+	+	+	+	+	+	+	+	+	+	+										+			LMX	
8062		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								LMX	
8082		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								LMX	
8086	8	+	+	+	+	+							+														LMX	
8090		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								LMX	
8098		+	+	+	+	+	+	+	+	+	+	+	+	+												B12C,B5C,B7C,A1C >	LMX	
8100		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									A10C	LMX	
8103		+	+	+	+	+	+	+	+	+	+	+	+	+								+	+	+			LMX	
8112		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							A24,A74	LMX

Table 26. Individual laboratory results for Serum #1280 by Luminex - class I

		**** Serum 1280 ****																																											
Ctr	% POS	A23	A24	A25	A32	B38	B49	B51	B52	B53	B57	B58	B59	A80	B13	B37	B44	B47	B63	B77	B27	A2	B76	A68	A1	A69	B35	Bw4	A2403	A203	A2C	B15	B78	Other	Method										
615		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									+	B*27:05	LMX							
725		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												LMX						
774	71	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												LMX						
786		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									+	B18	LMX						
910		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												LMX					
3224		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											LMX				
3632	96	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+										LMX				
3753		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											LMX				
3766	96	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											LMX			
3808	24	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											LMX			
3966	24	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+											LMX			
4322	NT																																									LMX			
5214		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												LMX		
5219	27	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A9,A10,B21,B5 >	LMX			
5462		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX		
6649	28	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8045	26	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8058	31	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Cw4	LMX		
8062		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8082		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8086	18	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8090		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX
8098		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B12C,B5C,B8C,B7C >	LMX	
8100		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX	
8103		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX
8112		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX

Table 28. Individual laboratory results for Serum #1277 by Luminex - class II

		**** Serum 1277 ****																																
Ctr	% POS	DP19	DP28	DR8	DP15	DP10	DP20	DR1	DR12	DR16	DR14	DR4	DR52	DR15	DR17	DR18	DR11	DR9	DP13	DQ2	DQ4	DQ6	DR13	DPw5	DQ8	DR51	DPA1*01	DPA1*03	DP11	DPw2	DPw4	Other	Method	
615	no specificities assigned																																	
774	0																																	
910	0																																	
3224	no specificities assigned																																	
3632	26	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+	+								
3753	0																																	
3766	82	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+		+	+					DR103,DQ5, DRB1*12:01, DRB1*14:01,DRB1*04:02, DRB1*11:01,DRB1*15:01>	
3808	0																																	
3966	20	+	+	+	+	+		+	+	+	+	+	+								+	+					+			+				
4322		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	DR103,DR7,DQ5,DPw6 >
5214		+	+	+	+	+	+	+																										
5219	0																																	
5462		+	+	+	+	+	+	+	+	+	+									+	+	+				+								
6649	0																																	
8045	0																																	
8058	0																																	
8062		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+		+			+	+		DPw6,DP402	
8082		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+		+			+	+	+				DPw6,DP402	
8086	26	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+	+								
8090		+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+				+	+				+	+					
8098	NT																																	
8100		+	+	+	+	+	+		+	+	+	+	+							+	+	+	+			+								
8103	NT																																	
8112		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+		DP18	

Table 29. Individual laboratory results for Serum #1278 - 1279 by Luminex - class II

Ctr	**** Serum 1278 ****																Other	**** Serum 1279 ****								Method																
	% POS	DR11	DR7	DPw1	DPw3	DPw5	DPw6	DP11	DP18	DP28	DPw2	DR53	DP13	DP14	DP17	DP19		DP9	DR9	DP10	DP20	DPw4	DP402	DPA1*02	DP15		DPA1*03	DPA1*04	DPA1*01	% POS	DR7	DR9	DR53	DR52	DQ2	DQA1*05	DR12	DQA1*04	Other			
615		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+														DP9,DQA1*02,DRB3*01:01, DRB3*03:01	LMX			
774	91	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								37	+	+	+	+			+				LMX		
910		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+																DRB3*01:01, DRB3*03:01	LMX			
3224		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+		+	+														LMX		
3632	63	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+							64	+	+	+	+	+						LMX		
3753		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+																DRB3*01:01, DRB3*03:01	LMX			
3766	76	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+					78	+	+	+	+	+	+	+	+		DR13,DR14,DR17,DQA1*03, DQA1*05:03,DQA1*05:05, DRB3*01:01,DRB3*03:01>	LMX		
3808	28	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+						3	+	+	+								LMX			
3966	35	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					+		+	+	+	13	+	+	+	+	+	+	+			DQA1*02,DQA1*03	LMX			
4322		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+													LMX		
5214		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+																			LMX	
5219	28	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+	+					3	+	+	+	+									LMX	
5462		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+																		LMX	
6649	31	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+		+				6	+	+	+	+	+								LMX	
8045	29	+	+	+	+	+	+															+						5	+	+	+	+									LMX	
8058	27	+	+															+										2	+	+											LMX	
8062		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+																			LMX	
8082		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+														LMX	
8086	37	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+									6	+	+	+		+								LMX
8090		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																					LMX	
8098		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+				+		+	+																LMX	
8100		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																					LMX	
8103		+	+	+	+	+	+	+	+	+	+		+	+	+	+	+					+	+																		LMX	
8112		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+																	+					LMX

