

B-cell Line Exchange #270

JUNE 7, 2017

B-cell Lines 539-540

The results for B-cell Line Exchange #270 are summarized in Tables 1 - 2 and individual laboratory results reported for each sample are listed in Tables 3 - 8. We are most grateful to **Oxford Transplant Centre, Churchill Hospital, Oxford**, for providing us with valuable reference cells studied in our exchanges.

We would also like to express our appreciation to the labs performing NGS typing for sharing their results and encourage other NGS labs to also share their findings. The haplotype frequencies used in this report are from the NMDP Bioinformatics website, <http://bioinformatics.nmdp.org/>.

Ter-539. The reported consensus type for this sample from a Filipino donor is DRB1*12:02-DRB1*15:02-DRB3*03:01-DRB5*01:01-DQA1*01:02-DQA1*06:01-DQB1*03:01-DQB1*05:02-DPA1*02:01-DPA1*02:02-DPB1*05:01-DPB1*14:01/A*24:02-B*15:13-B*48:01-C*08:01. One possible class II association in this cell is DRB1*12:02-DRB3*03:01-DQA1*06:01-DQB1*03:01, observed in previous exchange cells, Ter 285 (same as Ter 121) and Ter 258. The other likely association present may be DRB1*15:02-DRB5*01:01-DQA1*01:02-DQB1*05:02, observed previously in Ter 521 (same as Ter 276) and Ter 516 (same as Ter 433 and Ter 269). The A*24:02-B*48:01-DQB1*05:02 association in this cell is observed exclusively in Asians, with HF =0.00089.

This cell is CAM020, a reference cell for B*15:13:01. It was previously studied in the workshops as IHW9256 and in the class I DNA Extract Exchange as extract 384 (2007). In this present study, B*15:13 was assigned in completed consensus, with 7 labs assigning B*15:13:01. B*48:01 (100%) was reported as the second A-locus type, with 7 labs reporting B*48:01:01. A*24:02 (A*24:02:01) and C*08:01 (C*08:01:01) were also reported in complete consensus. NGS results for A*24:02 were reported as A*24:02:01:01. For class II, the assigned DR types were DRB1*12:02 (100%), DRB1*15:02 (100%), DRB3*03:01 (100%), and DRB5*01:01 (95%), with 10 labs assigning DRB1*12:02:01, 9 labs assigning DRB1*15:02:01, and 3 labs assigning DRB3*03:01:03 and DRB5*01:01:01 by NGS. DQA1*01:02, DQA1*06:01, DQB1*03:01 and DQB1*05:02 were reported by 100% of labs reporting at high resolution.

Ter-540. The consensus type for this sample from an Asian donor is DRB1*07:01-DRB1*12:02-DRB3*03:01-DRB4*01:03:01:02N-DQA1*02:01-DQA1*06:01-DQB1*03:01-DQB1*03:03-DPA1*02:01-DPA1*02-DPB1*04:01-

DPB1*13:01/A*24:17-A*33:03-B*07:02-B*15:02-C*07:02-C*08:01. A likely class II association present in this cell is DRB1*07:01-DRB4*01:03:01:02N-DQA1*02:01-DQB1*03:03, observed in previous exchanges cells, Ter 487 (same as Ter 413 and Ter 311) and Ter 451. The other likely class II association present is DRB1*12:02-DRB3*03:01-DQA1*06:01-DQB1*03:01, observed in Ter 285 (same as Ter 121) and Ter 214 (same as Ter 124 and Ter 54). The A*24:17-B*15:02-DRB1*12:02-DQB1*03:01 association in this cell is observed most frequently in Asians, with HF=0.00266.

This cell is NDS-NH, a reference cell for A*24:17. It was previously typed for class II as Ter 256 (2000) and for class I as extracts 334 (2005), 254 (2003), and 122 (2000). In this present study, A*24:17 was reported in complete consensus. A*33:03 (100%) was reported as the second A-locus type, with 7 labs assigning A*33:03:01. B*07:02, B*15:02, C*07:02 and C*08:01 were also reported in complete consensus. C*07:02 was assigned as C*07:02:01:03 by NGS. For class II, DRB1*07:01 and DRB1*12:02 were each reported in complete consensus, with 9 labs assigning DRB1*07:01:01 and 10 labs assigning DRB1*12:02:01. DRB4*01:03:01:02N was reported by 91% and DRB3*03:01 by 100%, with 3 NGS labs assigning DRB3*03:01:03. Two subtypes of DQB1*03 were detected in this cell, DQB1*03:01 (100%) and DQB1*03:03 (100%). There were also 2 subtypes of DPA1*02 present. The first, DPA1*02:01 was reported in complete consensus. Hartzman and Hurley reported the presence of a possible variant, noting "DPA1*02:01:01:01v has 1 nt change at Intron 1 nt 870 T → G resulting in a non coding change." The assignment of the second DPA1*02 subtype remained unresolved, as DPA1*02:07 was reported by 5 labs and DPA1*02:02 was assigned by 8 labs. It is of interest to note, the sequence for DPA1*02:02:01 was found to be identical to DPA1*02:07:01 (IPD-IMGT/HLA Database, March 2017). Labs are encouraged to update their sequencing libraries to ensure they are current.

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Table 1: Summary of the 270th B-cell Line Exchange

Ter-539

DNA Typing - class II		21 labs High; 23 labs Low-DRB3/4/5		20 labs High; 24 labs Low-DQA1		31 High Labs; 30 labs Low-DQB1		13 High Labs; 12 labs Low-DPA1		28 High Labs; 16 labs Low-DPB1	
			%(n)		%(n)		%(n)		%(n)		%(n)
DRB1*12:02:01	31(10)	DRB3*03:01:03	14(3)	DQA1*01:02:01:01	5 (1)	DQB1*03:01:01:01	3 (1)	DPA1*02:01:01:01	8 (1)	DPB1*05:01:01	28(8)
DRB1*12:02	69(22)	DRB3*03:01	86(18)	DQA1*01:02:01	15(3)	DQB1*03:01:01	26(8)	DPA1*02:01:01	15(2)	DPB1*05:01:01G	7 (2)
DRB1*12	100(32)	DRB3*03	83(19)	DQA1*01:02	80(16)	DQB1*03:01	71(22)	DPA1*02:01	77(10)	DPB1*05:01	61(17)
		DRB3*PRESENT	17(4)	DQA1*01	100(24)	DQB1*03(DQ7)	3 (1)	DPA1*02	100(12)	DPB1*38:01	4 (1)
						DQB1*03	97(29)			DPB1*05	100(16)
DNA Typing - class II		19 labs High; 24 labs Low-DRB3/4/5		21 labs High; 23 labs Low-DQA1		30 High Labs; 30 labs Low-DQB1		13 High Labs-DPA1		28 High Labs; 16 labs Low-DPB1	
			%(n)		%(n)		%(n)		%(n)		%(n)
DRB1*15:02:01:01	3 (1)	DRB5*01:01:01	16(3)	DQA1*06:01:01	19(4)	DQB1*05:02:01	27(8)	DPA1*02:02:02	23(3)	DPB1*14:01:01	11(3)
DRB1*15:02:01	25(8)	DRB5*01:01	79(15)	DQA1*06:01	81(17)	DQB1*05:02	73(22)	DPA1*02:02:02G	8 (1)	DPB1*14:01:01G	3 (1)
DRB1*15:02:01G	3 (1)	DRB5*01:15	5 (1)	DQA1*06	100(23)	DQB1*05	100(30)	DPA1*02:02	69(9)	DPB1*14:01	86(24)
DRB1*15:02	69(22)	DRB5*01	79(19)							DPB1*14	100(16)
DRB1*15	100(32)	DRB5*PRESENT	21(5)								

DNA Typing - class I		21 labs High; 24 labs low- A		25 labs High; 23 labs low- B		21 labs High; 24 labs low- C	
			%(n)		%(n)		%(n)
A*24:02:01:01	19(4)	B*15:13:01	28(7)	C*08:01:01	33(7)		
A*24:02:01	14(3)	B*15:13	72(18)	C*08:01:01G	5 (1)		
A*24:02	67(14)	B*15(B77)	4 (1)	C*08:01	62(13)		
A*24	100(24)	B*15	91(21)	C*08	100(24)		
		B*40	4 (1)				
DNA Typing - class I		21 labs High; 24 labs low- B					
			%(n)				
		B*48:01:01	33(7)				
		B*48:01	67(14)				
		B*48	100(24)				

Table 2: Summary of the 270th B-cell Line Exchange

Ter-540

DNA Typing - class II		<u>32 labs High; 32 labs low-DRB1</u>		<u>21 labs High; 23 labs Low-DRB3/4/5</u>		<u>21 labs High; 23 labs Low-DQA1</u>		<u>31 High Labs; 30 labs Low-DQB1</u>		<u>13 High Labs; 12 labs Low-DPA1</u>		<u>28 High Labs; 16 labs Low-DPB1</u>		
			%(n)		%(n)		%(n)		%(n)		%(n)		%(n)	
DNA Typing - class II	DRB1*07:01:01:02	6 (2)		DRB3*03:01:03	14(3)	DQA1*02:01:01	5 (1)	DQB1*03:01:01	29(9)	DPA1*02:01:01:01	8 (1)	DPB1*04:01:01:01	4 (1)	
	DRB1*07:01:01	22(7)		DRB3*03:01	86(18)	DQA1*02:01	95(20)	DQB1*03:01	71(22)	DPA1*02:01:01	15 (2)	DPB1*04:01:01	21(6)	
	DRB1*07:01:01G	6 (2)		DRB3*03	83(19)	DQA1*02	100(23)	DQB1*03(DQ7)	3 (1)	DPA1*02:01	77(10)	DPB1*04:01:01G	11(3)	
	DRB1*07:01	66(21)		DRB3*PRESENT	17(4)			DQB1*03	97(30)	DPA1*02	100(12)	DPB1*04:01P	4 (1)	
	DRB1*07	100(32)										DPB1*04:01	60(17)	
													DPB1*04(DP401)	37(6)
													DPB1*04	63(10)
DNA Typing - class I	DRB1*12:02:01	31(10)		DRB4*01:03:01:02N	39(9)	DQA1*06:01:01	19(4)	DQB1*03:03:02:01	6 (2)	DPA1*02:07:01:01	8 (1)	DPB1*13:01:01	25(7)	
	DRB1*12:02	69(22)		DRB4*01:03:01N	13(3)	DQA1*06:01	71(15)	DQB1*03:03:02	23(7)	DPA1*02:07:01	8 (1)	DPB1*13:01:01G	18(5)	
	DRB1*12	100(32)		DRB4*01:03N	39(9)	DQA1*04:01	10(2)	DQB1*03:03	71(22)	DPA1*02:07	23(3)	DPB1*13:01P	4 (1)	
				DRB4*01:03	9 (2)	DQA1*06	91(21)	DQB1*03(DQ9)	3 (1)	DPA1*02:02	61(8)	DPB1*13:01	53(15)	
				DRB4*01N	57(13)	DQA1*04	9 (2)	DQB1*03	97(29)			DPB1*13	100(16)	
				DRB4*01	26(6)									
				DRB4*01	26(6)									
				DRB4*NULL	4 (1)									
				DRB4*PRESENT	13(3)									
DNA Typing - class I	A*24:17	100(21)		B*07:02:01	28(6)	C*07:02:01:03	19(4)							
	A*24	100(24)		B*07:02:01G	5 (1)	C*07:02:01	14(3)							
				B*07:02	67(14)	C*07:02:01G	5 (1)							
				B*07	100(24)	C*07:02	62(13)							
						C*07	100(24)							
DNA Typing - class I	A*33:03:01	32(7)		B*15:02:01	29(7)	C*08:01:01	33(7)							
	A*33:03	68(15)		B*15:02	71(17)	C*08:01:01G	5 (1)							
	A*33	100(24)		B*15(B75)	4 (1)	C*08:01	62(13)							
				B*15	96(23)	C*08	100(24)							

Table 3a: Individual laboratory results for B-cell #539-Class II

Center	Investigator	Low resolution												METHOD	Other Alleles
		DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1			
5462	Arnold , Paula	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSP SSO	
774	Cecka , J. Michael	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSP SSO	
3224	Chen , Dong-Feng	*12	*15	3*03	5*01	NT	NT	*03	*05	NT	NT	NT	NT	SSO SBT	
3632	Colombe , Beth W.	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSP SSO	
5130	Costeas , Paul A.	*12	*15	3*03	5*01	*01	*06	*03	*05			*05	*14	SSP SSO NGS	
779	Daniel , Claude	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSP SSO	
5219	Daniel , Dolly	*12	*15			*01	*06	*03	*05					SSO	
87	Di Paola , Nicholas	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	RT-PCR	
5214	Eckels/CPMC ,	*12	*15	3*03	5*01	*01	*06	*03(DQ7)	*05	*02	*02	*05	*14	SSO	
747	Ferrari-Lacraz , Sylv	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSP SSO NGS	
4079	Fort , Marylise	*12	*15					*03	*05					SSP	
792	Gandhi , Manish	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSO SBT	
8043	Gideoni , Osnat	*12	*15			*01	*06	*03	*05					SSP SSO	
810	Hamdi , Nuha	*12	*15			*01		*03	*05					SSO	
8087	Hernandez Rosales	*12	*15			*01	*06	*03	*05					SSO	
771	Israel , Shoshana	*12	*15					*03	*05					SSP SSO	
794	Jaatinen , Taina	*12	*15	3*03	5*01	*01	*06	*03	*05	*02		*05	*14	SSP SSO SBT RT-PCR	
5488	Khuu , Hanh				5*01										
725	Lardy , N.M.	*12	*15	3*PRESENT	5*PRESENT	*01	*06	*03	*05					SSO	
6649	Lim , Young Ae	*12	*15	3*PRESENT	5*PRESENT									SSP	
2400	Liu , Chang	*12	*15	3*03	5*01							*05	*14	SSP SSO SBT	
731	Loewenthal , Ron	*12	*15			*01	*06	*03	*05					SSP SSO SBT	
206	McAlack , Robert	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSO	
735	Moussa , Omar	*12	*15	3*03	5*01	*01	*06	*03	*05	*02		*05	*14	SSO	
8042	Muncher , Liora	*12	*15	3*03	5*01	NT	NT	*03	*05	NT	NT	NT	NT	SSP SSO	
8001	Rao , Prakash			3*PRESENT	5*PRESENT	*01	*06							SSP SSO	
3519	Renac , Virginie	*12	*15					*03	*05			*05	*14	SSP NGS	
793	Rubocki , Ronald	*12	*15	3*03	5*PRESENT	*01	*06	*03	*05			*05	*14	SSP	
4251	Schiller , Jennifer	*12	*15	3*03	5*01	*01	*06	*03	*05	*02	*02	*05	*14	SSO NGS	
8068	Shanmugam , Hem	*12	*15	3*03	5*01			*03	*05					SSO	
8029	Tarigopula , Anil	*12	*15			*01	*06	*03	*05					SSO	
5451	Tilanus , Marcel G.J	*12	*15	3*03	5*01	*01	*06	*03	*05					SSP SSO SBT	
5642	Varnavidou-Nicolaic	*12	*15	3*PRESENT	5*PRESENT			*03	*05					SSP	
2847	Wakita , Atsushi	*12	*15											SSO	

Table 3b: Individual laboratory results for B-cell #539-Class II

Center	Investigator	High resolution												METHOD	Other Alleles
		DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1			
5462	Arnold , Paula	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	*05:01	*14:01	SSP SSO	DPB1*473:01 DPB1*445:01 DPB1*446:01 DPB1*498:01 DPB1*572:01 DPB1*135:01
5133	Askar , Medhat	*12:02:01	*15:02:01:01	3*03:01:03	5*01:01:01	*01:02:01	*06:01:01	*03:01:01		*02:01:01:01	*02:02:02	*05:01:01	*14:01:01	NGS	DPA1*02:01:01:02 DRB1*15:02:01:02
4492	Caillat-Zucman , S	*12:02:01	*15:02:01	3*03:01	5*01:01	*01:02:01	*06:01:01	*03:01:01	*05:02:01	*02:01	*02:02	*05:01:01	*14:01	SSP SSO NGS	DPA1*02:06
774	Cecka , J. Michael	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02	*02:01	*02:02	*05:01	*14:01	SSP SSO	DRB1*12:26 DRB1*12:31N DRB1*12:32 DRB1*15:44 DRB1*15:47 DRB1*15:60 DRB1*15:80N DRB5*01:16 DRB5*01:17 DQB1*05:53 DQB1*05:59 DQB1*05:65 DRB1*12:42 DRB1*12:37 DRB1*12:45 DRB1*15:101 DQB1*03:92 DQB1*03:93
8070	Chang , Uckjin	*12:02	*15:02											SBT	
9916	Charlton , Ronald	*12:02:01	*15:02:01	3*03:01	5*01:01			*03:01:01	*05:02:01			*05:01:01	*14:01	SSP SBT	
3224	Chen , Dong-Feng	*12:02	*15:02	NT	NT	NT	NT	*03:01	*05:02	NT	NT	NT	NT	SSO SBT	
8021	Clark , Brendan	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02	*02:01	*02:02	*05:01	*14:01	SSO NGS	
3632	Colombe , Beth W.	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02	*02:01	*02:02	*05:01	*14:01	SSP SSO	
5130	Costeas , Paul A.	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02			*05:01	*14:01	SSP SSO NGS	
779	Daniel , Claude					*01:02	*06:01	*03:01	*05:02	*02:01	*02:02	*05:01	*14:01	SSP SSO	
8086	Du , Keming	*12:02	*15:02			*01:02	*06:01	*03:01	*05:02	*02:01	*02:02	*05:01	*14:01	SSO SBT	
5214	Eckels/CPMC ,			3*03:01								*05:01:01G	*14:01:01G	SSO	
3135	Enczmann , J	*12:02	*15:02	3*03:01	5*01:01			*03:01	*05:02			*05:01	*14:01		
747	Ferrari-Lacraz , Syl	*12:02:01	*15:02:01	3*03:01:03	5*01:01:01	*01:02	*06:01	*03:01:01	*05:02:01	*02:01	*02:02	*05:01:01	*14:01	SSP SSO NGS	DQA1*01:08 DQA1*01:11 DPA1*02:06
762	Fischer , Gottfried	*12:02:01	*15:02:01	3*03:01:03	5*01:01	*01:02:01	*06:01:01	*03:01:01	*05:02:01	*02:01:01	*02:02:02	*05:01:01	*14:01	NGS	
4079	Fort , Marylise											*38:01	*14:01	SSP	
792	Gandhi , Manish	*12:02	*15:02					*03:01	*05:02			*05:01	*14:01	SSO SBT	
8043	Gideoni , Osnat	*12:02	*15:02			*01:02	*06:01	*03:01	*05:02					SSP SSO	
810	Hamdi , Nuha			3*03:01	5*01:15		*06:01							SSO	

Table 3b: Individual laboratory results for B-cell #539-Class II

High resolution															
Center	Investigator	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
2344	Hurley & Hartzman	*12:02:01	*15:02:01			*01:02:01:01	*06:01:01	*03:01:01:01	*05:02:01	*02:01:01	*02:02:02	*05:01:01	*14:01	NGS	DQA1*01:02:01:02 DQA1*01:02:01:04 DQB1*03:01:01:02 DQB1*03:01:01:03 DQA1*01:02:01:03
771	Israel , Shoshana	*12:02	*15:02					*03:01	*05:02					SSP SSO	
794	Jaatinen , Taina	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02	*02:01	*02:02	*05:01	*14:01	SSP SSO SBT RT-PCR	DQA1*01:11 DPA1*02:06 DPB1*135:01 DQA1*01:08
5488	Khuu , Hanh	*12:02:01	*15:02:01	3*03:01		*01:02	*06:01	*03:01:01	*05:02:01			*05:01:01	*14:01:01		DRB1*12:02:02 DRB1*15:02:06
4337	Kim , Tai-Gyu	*12:02	*15:02					*03:01	*05:02			*05:01	*14:01	SSP SBT	
2400	Liu , Chang	*12:02	*15:02			*01:02	*06:01	*03:01	*05:02			*05:01:01G	*14:01	SSP SSO SBT	
731	Loewenthal , Ron	*12:02:01	*15:02:01					*03:01:01	*05:02:01					SSP SSO SBT	
8042	Muncher , Liora	*12:02	*15:02	3*03:01	5*01:01	NT	NT	*03:01	*05:02	NT	NT	NT	NT	SSP SSO	
3966	Permpikul , Vejbae	*12:02	*15:02	3*03:01	5*01:01			*03:01	*05:02					SSP	
8001	Rao , Prakash	*12:02	*15:02	3*03:01	5*01:01			*03:01	*05:02			*05:01	*14:01	SSP SSO	
3753	Reed , Elaine F.	*12:02:01	*15:02:01G	3*03:01	5*01:01:01	*01:02	*06:01	*03:01:01	*05:02:01	*02:01	*02:02:02G	*05:01:01	*14:01:01	NGS	
3519	Renac , Virginie	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02			*05:01	*14:01	SSP NGS	
793	Rubocki , Ronald					*01:02	*06:01					*05:01	*14:01	SSP	
4251	Schiller , Jennifer	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02	*02:01	*02:02	*05:01	*14:01	SSO NGS	
230	Thoni , Deborah	*12:02	*15:02					*03:01	*05:02			*05:01	*14:01	SBT	
5451	Tilanus , Marcel G.	*12:02:01	*15:02:01											SSP SSO SBT	
5642	Varnavidou-Nicolai	*12:02	*15:02					*03:01	*05:02					SSP	
3511	Zeevi , Adriana	*12:02	*15:02	3*03:01	5*01:01	*01:02	*06:01	*03:01	*05:02			*05:01	*14:01	SSP SSO	

Table 4: Individual laboratory results for B-cell #539-Class II

Serology									
CTR	DIRNAME	DRB1		DRB3/4/5		DQB1			
910	Hahn,Amy B.	DR12	DR15	DR51	DR52			DQ7	DQ1

Table 5: Individual laboratory results for B-cell #539-Class I

Center	Investigator	Low resolution						High/Intermediate resolution						METHOD	Other Alleles
		HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
5462	Arnold , Paula	*24		*15	*48	*08		NT		NT	NT	NT		SSP SSO	
5133	Askar , Medhat							*24:02:01:01		*15:13:01	*48:01:01	*08:01:01		NGS	
4492	Caillat-Zucman , So							*24:02:01:01	*24:02:01:01	*15:13:01	*48:01:01	*08:01:01	*08:01:01	SSP SSO NGS	
774	Cecka , J. Michael	*24		*15	*48	*08				*15:13				SSP SSO	
8070	Chang , Uckjin													SBT	
9916	Charlton , Ronald K							*24:02		*15:13:01	*48:01:01	*08:01:01		SSP SBT	
3224	Chen , Dong-Feng	*24		*15	*48	*08		*24:02:01		*15:13	*48:01	*08:01:01G		SSO SBT	
8021	Clark , Brendan							*24:02		*15:13	*48:01	*08:01		SSO NGS	
3632	Colombe , Beth W.													SSP SSO	
5130	Costeas , Paul A.	*24	*24	*15	*48	*08	*08	*24:02	*24:02	*15:13	*48:01	*08:01	*08:01	SSP SSO NGS	
779	Daniel , Claude	*24		*15	*48	*08				*15:13				SSP SSO	
5219	Daniel , Dolly	*24	*24	*15	*48	*08	*08							SSO	
87	Di Paola , Nicholas	*24	*24	*15	*48	*08	*08							RT-PCR	
8086	Du , Keming							*24:02	*24:02	*15:13	*48:01	*08:01	*08:01	SSO SBT	
5214	Eckels/CPMC ,	*24		*15(B77)	*48	*08								SSO	
3135	Enczmann , J							*24:02	*24:02	*15:13	*48:01	*08:01	*08:01		
747	Ferrari-Lacraz , Sylv	*24	*24	*15	*48	*08	*08	*24:02:01:01	*24:02:01:01	*15:13:01	*48:01:01	*08:01:01	*08:01:01	SSP SSO NGS	
762	Fischer , Gottfried													NGS	
4079	Fort , Marylise													SSP	
792	Gandhi , Manish	*24		*15	*48	*08		*24:02		*15:13	*48:01	*08:01		SSO SBT	
8043	Gideoni , Osnat													SSP SSO	
910	Hahn , Amy B.														
810	Hamdi , Nuha	*24	*24		*48	*08	*12			*15:13				SSO	
8087	Hernandez Rosales	*24	*24	*40	*48	*08	*08							SSO	
2344	Hurley & Hartzman							*24:02:01:01	*24:02:01:01	*15:13:01	*48:01:01	*08:01:01	*08:01:01	NGS	
771	Israel , Shoshana													SSP SSO	
794	Jaatinen , Taina	*24		*15	*48	*08		*24:02		*15:13	*48:01	*08:01		SSP SSO SBT RT-PCR	C*08:99 C*08:102 C*08:22
5488	Khuu , Hanh							*24:02:01		*15:13:01	*48:01:01	*08:01:01			
4337	Kim , Tai-Gyu							*24:02	*24:02	*15:13	*48:01	*08:01	*08:01	SSP SBT	
725	Lardy , N.M.													SSO	
6649	Lim , Young Ae													SSP	
2400	Liu , Chang	*24		*15	*48	*08		*24:02		*15:13	*48:01	*08:01		SSP SSO SBT	
731	Loewenthal , Ron													SSP SSO SBT	
206	McAlack , Robert	*24		*15	*48	*08								SSO	
735	Moussa , Omar	*24		*15	*48	*08								SSO	
8042	Muncher , Liora	*24	*24	*15	*48	*08	*08	*24:02	*24:02	*15:13	*48:01	*08:01	*08:01	SSP SSO	
3966	Permpikul , Vejbaes	*24	*24	*15	*48	*08	*08			*15:13				SSP	
8001	Rao , Prakash													SSP SSO	
3753	Reed , Elaine F.							*24:02:01	*24:02:01	*15:13:01	*48:01:01	*08:01:01	*08:01:01	NGS	
3519	Renac , Virginie	*24		*15	*48	*08		*24:02		*15:13	*48:01	*08:01		SSP NGS	
793	Rubocki , Ronald	*24		*15	*48	*08								SSP	
4251	Schiller , Jennifer	*24	*24	*15	*48	*08	*08	*24:02	*24:02	*15:13	*48:01	*08:01	*08:01	SSO NGS	

Table 5: Individual laboratory results for B-cell #539-Class I

Center	Investigator	Low resolution						High/Intermediate resolution						METHOD	Other Alleles
		HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
8068	Shanmugam , Hem	*24		*15	*48	*08								SSO	
8029	Tarigopula , Anil	*24	*24	*15	*48	*08	*08							SSO	
230	Thoni , Deborah							*24:02		*15:13	*48:01	*08:01		SBT	
5451	Tilanus , Marcel G..													SSP SSO SBT	
5642	Varnavidou-Nicolaic													SSP	
2847	Wakita , Atsushi	*24		*15	*48	*08								SSO	
3511	Zeevi , Adriana							*24:02	*24:02	*15:13	*48:01	*08:01	*08:01	SSP SSO	

Table 6a: Individual laboratory results for B-cell #540-Class II

		Low resolution													
Center	Investigator	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
5462	Arnold , Paula	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02	*02	*04(DP401)	*13	SSP SSO	
774	Cecka , J. Michael	*07	*12	3*03	4*01	*02	*06	*03	*03	*02	*02	*04	*13	SSP SSO	
3224	Chen , Dong-Feng	*07	*12	3*03	4*01N	NT	NT	*03	*03	NT	NT	NT	NT	SSO SBT	
3632	Colombe , Beth W.	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02	*02	*04	*13	SSP SSO	
5130	Costeas , Paul A.	*07	*12	3*03	4*01	*02	*06	*03	*03			*04	*13	SSP SSO NGS	
779	Daniel , Claude	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02	*02	*04(DP401)	*13	SSP SSO	
5219	Daniel , Dolly	*07	*12			*02	*06	*03	*03					SSO	
87	Di Paola , Nicholas	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02	*02	*04(DP401)	*13	RT-PCR	
5214	Eckels/CPMC ,	*07	*12	3*03	4*01N	*02	*06	*03(DQ7)	*03(DQ9)	*02	*02	*04	*13	SSO	
747	Ferrari-Lacraz , Sylv	*07	*12	3*03	4*01	*02	*04	*03	*03	*02	*02	*04	*13	SSP SSO NGS	
4079	Fort , Marylise	*07	*12					*03	*03					SSP	
792	Gandhi , Manish	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02	*02	*04	*13	SSO SBT	
8043	Gideoni , Osnat	*07	*12			*02	*06	*03	*03					SSP SSO	
910	Hahn , Amy B.														
810	Hamdi , Nuha	*07	*12					*03	*03					SSO	
8087	Hernandez Rosales	*07	*12			*02	*06	*03	*03					SSO	
771	Israel , Shoshana	*07	*12					*03						SSP SSO	
794	Jaatinen , Taina	*07	*12	3*03	4*01	*02	*06	*03		*02		*04	*13	SSP SSO SBT RT-PCR	
5488	Khuu , Hanh														
725	Lardy , N.M.	*07	*12	3*PRESENT	4*PRESENT	*02	*04	*03						SSO	
6649	Lim , Young Ae	*07	*12	4*PRESENT	3*PRESENT									SSP	
2400	Liu , Chang	*07	*12	3*03	4*01N	*02	*06	*03	*03			*04	*13	SSP SSO SBT	
731	Loewenthal , Ron	*07	*12			*02	*06	*03	*03					SSP SSO SBT	
206	McAlack , Robert	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02	*02	*04	*13	SSO	
735	Moussa , Omar	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02		*04	*13	SSO	DPB1*107
8042	Muncher , Liora	*07	*12	3*03	4*01	NT	NT	*03	*03	NT	NT	NT	NT	SSP SSO	
3966	Permpikul , Vejbaes													SSP	
8001	Rao , Prakash			3*PRESENT	4*01N	*02	*06							SSP SSO	
3519	Renac , Virginie	*07	*12					*03				*04(DP401)	*13	SSP NGS	
793	Rubocki , Ronald	*07	*12	3*03	4*NULL	*02	*06	*03	*03			*04(DP401)	*13	SSP	
4251	Schiller , Jennifer	*07	*12	3*03	4*01N	*02	*06	*03	*03	*02	*02	*04(DP401)	*13	SSO NGS	
8068	Shanmugam , Hem	*07	*12	3*03	4*01			*03						SSO	
8029	Tarigopula , Anil	*07	*12			*02	*06	*03	*03					SSO	
5451	Tilanus , Marcel G.J	*07	*12	3*03	4*01N	*02	*06	*03						SSP SSO SBT	
5642	Varnavidou-Nicolaic	*07	*12	3*PRESENT	4*PRESENT			*03	*03					SSP	
2847	Wakita , Atsushi	*07	*12											SSO	

Table 6b: Individual laboratory results for B-cell #540-Class II

High resolution															
Center	Investigator	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
5462	Arnold , Paula	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	*04:01P	*13:01P	SSP SSO	DPB1*350:01 DPB1*534:01 DPB1*107:01 DPB1*133:01 DPB1*518:01 DPB1*459:01 DPB1*464:01 DPB1*519:01
5133	Askar , Medhat	*07:01:01	*12:02:01	3*03:01:03	4*01:03:01:02N	*02:01:01	*06:01:01	*03:01:01	*03:03:02	*02:01:01:01	*02:07:01	*04:01:01	*13:01:01	NGS	DPA1*02:01:01:02 DPB1*133:01 DPB1*107:01 DPB1*350:01
4492	Caillat-Zucman , S	*07:01:01	*12:02:01	3*03:01	4*01:03:01:02N	*02:01	*06:01:01	*03:01:01	*03:03:02:01	*02:01	*02:02	*04:01:01	*13:01:01	SSP SSO NGS	DPB1*107:01 DPA1*02:06
774	Cecka , J. Michael	*07:01	*12:02	3*03:01	4*01:03:01N	*02:01	*06:01	*03:01	*03:03	*02:01	*02:02	*04:01	*13:01	SSP SSO	DRB1*12:26 DRB1*12:31N DRB1*12:32 DRB1*12:42 DRB1*12:45 DQB1*03:92 DQB1*03:93
8070	Chang , Uckjin	*07:01	*12:02											SBT	
9916	Charlton , Ronald	*07:01:01	*12:02:01	3*03:01	4*01:03:01:02N			*03:01:01	*03:03:02			*04:01:01	*13:01:01	SSP SBT	DPB1*133:01 DPB1*350:01
3224	Chen , Dong-Feng	*07:01:01G	*12:02	NT	4*01:03:01N	NT	NT	*03:01	*03:03	NT	NT	NT	NT	SSO SBT	
8021	Clark , Brendan	*07:01	*12:02	3*03:01	4*01:03:01:02N	*02:01	*06:01	*03:01	*03:03	*02:01	*02:02	*04:01	*13:01	SSO NGS	
3632	Colombe , Beth W	*07:01	*12:02	3*03:01	4*01:03N	*02:01	*06:01	*03:01	*03:03	*02:01	*02:02	*04:01	*13:01	SSP SSO	
5130	Costeas , Paul A.	*07:01	*12:02	3*03:01	4*01:03:01:02N	*02:01	*06:01	*03:01	*03:03			*04:01	*13:01	SSP SSO NGS	
779	Daniel , Claude				4*01:03:01:02N	*02:01	*06:01	*03:01	*03:03	*02:01	*02:02	*04:01	*13:01	SSP SSO	
8086	Du , Keming	*07:01	*12:02			*02:01	*06:01	*03:01	*03:03	*02:01	*02:02	*04:01	*13:01	SSO SBT	
5214	Eckels/CPMC ,			3*03:01	4*01:03N							*04:01:01G	*13:01:01G	SSO	
3135	Enczmann , J	*07:01	*12:02	3*03:01	4*01:03N			*03:01	*03:03			*04:01	*13:01		
747	Ferrari-Lacraz , S	*07:01:01	*12:02:01	3*03:01:03	4*01:03:01:02N	*02:01	*04:01	*03:01:01	*03:03:02:01	*02:01	*02:02	*04:01:01	*13:01:01	SSP SSO NGS	DPB1*133:01 DPB1*107:01 DPB1*350:01 DPA1*02:06
762	Fischer , Gottfried	*07:01:01:02	*12:02:01	3*03:01:03	4*01:03:01:02N	*02:01	*06:01:01	*03:01:01	*03:03:02	*02:01:01	*02:07	*04:01:01	*13:01:01	NGS	DPB1*133:01 DPB1*350:01
4079	Fort , Marylise											*04:01	*13:01	SSP	
792	Gandhi , Manish	*07:01	*12:02					*03:01	*03:03			*04:01	*13:01	SSO SBT	DPB1*133:01 DPB1*350:01
8043	Gideoni , Osnat	*07:01	*12:02			*02:01	*06:01	*03:01	*03:03					SSP SSO	
810	Hamdi , Nuha			3*03:01	4*01:03	*02:01	04:01							SSO	
2344	Hurley & Hartzma	*07:01:01:02	*12:02:01			*02:01	*06:01:01	*03:01:01	*03:03:02	*02:01:01	*02:07:01:01	*04:01:01:01	*13:01:01	NGS	DPB1*04:01:01:02
771	Israel , Shoshana	*07:01	*12:02					*03:01	*03:03					SSP SSO	

Table 6b: Individual laboratory results for B-cell #540-Class II															
High resolution															
Center	Investigator	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
794	Jaatinen , Taina	*07:01	*12:02	3*03:01	4*01:03N	*02:01	*06:01	*03:01	*03:03	*02:01	*02:02	*04:01	*13:01	SSP SSO SBT RT-PCR	DRB1*07:34 DPA1*02:06 DPB1*350:01 DPB1*415:01 DPB1*459:01 DPB1*464:01 DPB1*133:01 DPB1*107:01
5488	Khuu , Hanh	*07:01:01	*12:02:01	3*03:01	4*01:03:01:02N	*02:01	*06:01	*03:01:01	*03:03:02			*04:01:01	*13:01:01		DPB1*133:01 DPB1*350:01
4337	Kim , Tai-Gyu	*07:01	*12:02					*03:01	*03:03			*04:01	*13:01	SSP SBT	
2400	Liu , Chang	*07:01	*12:02			*02:01	*06:01	*03:01	*03:03			*04:01:01G	*13:01:01G	SSP SSO SBT	
731	Loewenthal , Ron	*07:01:01G	*12:02:01					*03:01:01	*03:03:02					SSP SSO SBT	DQB1*03:113
8042	Muncher , Liora	*07:01	*12:02	3*03:01	4*01:03	NT	NT	*03:01	*03:03	NT	NT	NT	NT	SSP SSO	
3966	Permpikul , Vejba	*07:01	*12:02	3*03:01	4*01:03N			*03:01	*03:03					SSP	
8001	Rao , Prakash	*07:01	*12:02	3*03:01	4*01:03N			*03:01	*03:03			*04:01	*13:01:01G	SSP SSO	
3753	Reed , Elaine F.	*07:01:01	*12:02:01	3*03:01	4*01:03:01N	*02:01	*06:01	*03:01:01	*03:03:02	*02:01	*02:07	*04:01:01G	*13:01:01G	NGS	
3519	Renac , Virginie	*07:01	*12:02	3*03:01	4*01:03N	*02:01	*06:01	*03:01	*03:03			*04:01	*13:01	SSP NGS	DPB1*350:01 DPB1*133:01 DPB1*107:01
793	Rubocki , Ronald					*02:01	*06:01					*04:01	*13:01	SSP	
4251	Schiller , Jennifer	*07:01	*12:02	3*03:01	4*01:03N	*02:01	*06:01	*03:01	*03:03	*02:01	*02:07	*04:01	*13:01:01G	SSO NGS	
230	Thoni , Deborah	*07:01	*12:02					*03:01	*03:03			*04:01	*13:01	SBT	
5451	Tilanus , Marcel G	*07:01:01	*12:02:01											SSP SSO SBT	
5642	Varnavidou-Nicola	*07:01	*12:02					*03:01	*03:03					SSP	
3511	Zeevi , Adriana	*07:01	*12:02	3*03:01	4*01:03N	*02:01	*06:01	*03:01	*03:03			*04:01	*13:01	SSP SSO	

Table 7: Individual laboratory results for B-cell #540-Class II

Serology									
CTR	DIRNAME	DRB1		DRB3/4/5		DQB1			
910	Hahn,Amy B.	DR7	DR12	DR52	DR53			DQ7	DQ3

Table 8: Individual laboratory results for B-cell #540-Class I

Center	Investigator	Low resolution						High/Intermediate resolution						METHOD	Other Alleles
		HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
5462	Arnold , Paula	*24	*33	*07	*15	*07	*08	NT	NT	NT	NT	NT	NT	SSP SSO	
5133	Askar , Medhat							*24:17	*33:03:01	*07:02:01	*15:02:01	*07:02:01:03	*08:01:01	NGS	
4492	Caillat-Zucman , Sc							*24:17	*33:03:01	*07:02:01	*15:02:01	*07:02:01:03	*08:01:01	SSP SSO NGS	
774	Cecka , J. Michael	*24	*33	*07	*15	*07	*08				*15:02			SSP SSO	B*15:214 B*15:302N
8070	Chang , Uckjin													SBT	
9916	Charlton , Ronald K							*24:17	*33:03:01	*07:02	*15:02:01	*07:02:01	*08:01:01	SSP SBT	
3224	Chen , Dong-Feng	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02:01G	*15:02	*07:02:01G	*08:01:01G	SSO SBT	
8021	Clark , Brendan							*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSO NGS	
3632	Colombe , Beth W.													SSP SSO	
5130	Costeas , Paul A.	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSP SSO NGS	
779	Daniel , Claude	*24	*33	*07	*15	*07	*08				*15:02			SSP SSO	
5219	Daniel , Dolly	*24	*33	*07	*15	*07	*08							SSO	
87	Di Paola , Nicholas	*24	*33	*07	*15	*07	*08							RT-PCR	
8086	Du , Keming							*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSO SBT	
5214	Eckels/CPMC ,	*24	*33	*07	*15(B75)	*07	*08							SSO	
3135	Enczmann , J							*24:17	*33:03	*07:02	*15:02	*07:02	*08:01		
747	Ferrari-Lacraz , Sylv	*24	*33	*07	*15	*07	*08	*24:17	*33:03:01	*07:02:01	*15:02:01	*07:02:01:03	*08:01:01	SSP SSO NGS	
762	Fischer , Gottfried													NGS	
4079	Fort , Marylise													SSP	
792	Gandhi , Manish	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSO SBT	
8043	Gideoni , Osnat													SSP SSO	
910	Hahn , Amy B.														
810	Hamdi , Nuha	*24	*33	*07	*15	*07	*08							SSO	
8087	Hernandez Rosales	*24	*33	*07	*15	*07	*08							SSO	
2344	Hurley & Hartzman							*24:17	*33:03:01	*07:02:01	*15:02:01	*07:02:01:03	*08:01:01	NGS	
771	Israel , Shoshana													SSP SSO	
794	Jaatinen , Taina	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSP SSO SBT RT-PCR	B*07:61 B*07:161N C*07:50 C*07:349 C*08:22 C*08:99 C*08:102
5488	Khuu , Hanh							*24:17	*33:03:01	*07:02:01	*15:02:01	*07:02:01	*08:01:01		B*15:02:03 B*07:161N B*07:02:14 C*08:01:06 C*08:21 C*08:16:01 C*08:72:01 C*07:161 C*07:02:35 C*07:39 C*07:260
4337	Kim , Tai-Gyu							*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSP SBT	
725	Lardy , N.M.													SSO	

Table 8: Individual laboratory results for B-cell #540-Class I

Center	Investigator	Low resolution						High/Intermediate resolution						METHOD	Other Alleles
		HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
6649	Lim , Young Ae													SSP	
2400	Liu , Chang	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSP SSO SBT	
731	Loewenthal , Ron													SSP SSO SBT	
206	McAlack , Robert	*24	*33	*07	*15	*07	*08							SSO	
735	Moussa , Omar	*24	*33	*07	*15	*07	*08							SSO	
8042	Muncher , Liora	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSP SSO	
3966	Permpikul , Vejbaes	*24	*33	*07	*15	*07	*08		*33:03		*15:02			SSP	
8001	Rao , Prakash													SSP SSO	
3753	Reed , Elaine F.							*24:17	*33:03:01	*07:02:01	*15:02:01	*07:02:01	*08:01:01	NGS	
3519	Renac , Virginie	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSP NGS	
793	Rubocki , Ronald	*24	*33	*07	*15	*07	*08							SSP	
4251	Schiller , Jennifer	*24	*33	*07	*15	*07	*08	*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSO NGS	
8068	Shanmugam , Hem	*24	*33	*07	*15	*07	*08							SSO	
8029	Tarigopula , Anil	*24	*33	*07	*15	*07	*08							SSO	
230	Thoni , Deborah							*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SBT	
5451	Tilanus , Marcel G.J													SSP SSO SBT	
5642	Varnavidou-Nicolaïd													SSP	
2847	Wakita , Atsushi	*24	*33	*07	*15	*07	*08							SSO	
3511	Zeevi , Adriana							*24:17	*33:03	*07:02	*15:02	*07:02	*08:01	SSP SSO	