

# REPORT OF THE 425<sup>th</sup> CELL EXCHANGE DECEMBER 10, 2021

B-cell Line	591 - 592
Cells	1697 - 1700
Serum	1325 - 1328

## B-CELL LINE EXCHANGE #296

The results for B-cell Line Exchange #296 are summarized in Tables 1 - 2 and individual laboratory results reported for each sample are listed in Tables 3 - 6. We would like to acknowledge the generosity of **Leiden University Medical Centre, Leiden, The Netherlands** and **Badger-Hawkeye Red Cross, Madison WI** for sharing the interesting cells examined in this study.

We would like to also thank the labs performing NGS for sharing their findings and encourage other NGS labs to do so as well. Haplotype frequencies used in this report are from the NMDP Bioinformatics website, <https://bioinformatics.bethematchclinical.org/>.

**Ter-591.** The reported HLA type for this cell from a Caucasian donor was DRB1\*14:10-DRB1\*15:02-DRB3\*02:02-DRB5\*01:02-DQA1\*01:01-DQA1\*01:01-DQB1\*05:01-DQB1\*05:10-DPA1\*02:01-DPA1\*02:02-DPB1\*01:01-DPB1\*05:01-A\*11:01-A\*33:03-B\*18:01-B\*52:01-C\*07:02-C\*07:04. This cell was TER283, one of the reference cells for DRB1\*14:10:01:01.

One possible association present in this cell was A\*11:01-B\*52:01-DRB1\*15:02, observed in Caucasians, with HF = 0.00211. The other association present was possibly A\*33:03-B\*18:01-DRB1\*14:10, observed in another DRB1\*14:10 reference cell, DKMS-LSL\_ID15199269.

This cell was examined previously in the Exchange as Ter 422 (2009), Ter 283 (2001), Ter 247 (1999), and as extract 119 (2000). In this present retyping, DRB1\*14:10 was reported by 100% of labs.

A number of labs (Askar, Blouin, Gandhi, Renac, and Ward) detected the presence a possible DQA1\*01 variant. Askar, Renac, and Ward noted the new allele was most similar to DQA1\*01:01, except for a base substitution in exon 2 at codon 59.3 (CCG → CCA), resulting in a synonymous substitution.

DQB1\*05:01 (100%) and DQB1\*05:10 (86%) were the reported DQB1 types, with 4 NGS labs assigning DQB1\*05:01:24. This is an update from the 2009 study in which DQB1\*05:01 (100%) and DQB1\*05:03 (92%) were assigned. Four labs at the time indicated a new DQB1\*05 variant was present.

**Ter-592.** The reported HLA type for this cell from a Hispanic donor was DRB1\*08:02-DRB1\*14:02-DRB3\*01:01-DQA1\*04:01-DQA1\*05:03-DQB1\*03:01-DQB1\*04:02-DPA1\*01:03-DPB1\*04:02-A\*02:11-A\*24:53-B\*40:04-C\*03:04.

This cell was the sibling of a cell examined previously in the Exchange as extract 194. From family studies and Exchange data, the class I associations present were found to be A\*02:11-B\*40:04-C\*03:04 and A\*24:53-B\*40:04-C\*03:04. The B\*40:04-C\*03:04 association present in this cell is observed exclusively in Hispanics, with HF = 0.00226.

This cell was previously examined in the Exchange as Ter 554 (2018) and extracts 412 (2008), 265 (2003), and 193 (2002). In this present retyping, the rare A\*24:53 and B\*40:04 alleles were once again assigned by 100% of labs reporting at high resolution. Good agreement (>90%) was also achieved for all other loci.





**Table 3a: Individual laboratory results for B-cell #591 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
278	*14	*15	3*02	5*01	*01	*01	*05	*05	*02	*02	*01	*05		
725	*14	*15	3*02	5*01	*01		*05						SSO	
747	*14	*15	3*02	5*01	*01	*01	*05	*05	*02	*02	*01	*05	SSP SSO NGS	
792	*14	*15	3*02	5*01	*01	*01	*05	*05	*02	*02	*01	*05	SSO NGS	
793	*14	*15	3*02	5*PRESENT	*01	*01	*05				*01	*05	SSP	
794	*14	*15	3*02	5*01	*01		*05		*02		*01	*05	SSP SSO NGS RT-PCR	
2400	*14	*15	3*02	5*01	*01	*01	*05	*05	NT	NT	*01	*05	SSO NGS	
2847	*14	*15											SSO	
3519	*14	*15	3*02	5*01	*01		*05		*02		*01	*05	SSP NGS RT-PCR	
3753	*14	*15	3*02	5*01	*01	*01	*05	*05	*02	*02	*01	*05	SSO	
3966													SSP	
4079	*14	*15	3*02	5*01	*01		*05	*05	*02	*02	*01	*05	SSO	
5130	*14	*15	3*02	5*01	*01	*01	*05	*05			*01	*05	SSO NGS	
5214	*14	*15	3*02	5*01	*01		*05		*02		*01	*05	RT-PCR	
5219	*14	*15	NT	NT	*01	*01	*05	*05	NT	NT	NT	NT	SSO NGS	
5451	*14	*15	3*02	5*01	*01	*01	*05	*05					SSO SBT	
5462	*14	*15	3*02	5*01	*01		*05		*02		NT	NT	SSO RT-PCR	
5488			3*02		*01	*01							SSO SBT NGS	
5642	*14	*15	3*PRESENT	5*PRESENT			*05	*05					SSP SSO	
6649	*14	*15					*05	*05					SSO	
8029	*14	*15			*01	*01	*05	*05						
8043	*14	*15	3*PRESENT	5*PRESENT	*01	*01	*05	*05					SSP SSO NGS	
8068	*14	*15			*01	*01	*05	*05					SSO	
8123	*14	*15	3*02	5*01	*01	*01	*05	*05	*02	*02	*01	*05		

**Table 3b: Individual laboratory results for B-cell #591 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01	NGS	
278	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01		DQA1*01:05 DQA1*01:05
747	*14:10	*15:02	3*02:02:01	5*01:02	*01:01	*01:05	*05:01	*05:10	*02:01:01	*02:02:02	*01:01:01	*05:01:01	SSP SSO NGS	DRB1*15:140 DRB1*15:149 DQB1*05:263 DRB1*15:140 DRB1*15:149 DQB1*05:263
762	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01	NGS	
792	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01	SSO NGS	DRB1*15:140 DRB1*15:149
793					*01:01	*01:04					*01:01	*05:01	SSP	
794	*14:10	*15:02:01	3*02:02:01	5*01:02	*01:01	*01:04:01	*05:01:24	*05:10	*02:01:01	*02:02:02	*01:01:01	*05:01:01	SSP SSO NGS RT-PCR	
2344	*14:10	*15:02:01	NT	NT	NT	NT	*05:01:24	*05:10	NT	NT	*01:01:01	*05:01:01	NGS	DRB1*15:140 DRB1*15:149
2400	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	NT	NT	*01:01:01G	*05:01:01G	SSO NGS	DRB1*15:140 DRB1*15:149
3135	*14:10	*15:02:01	3*02:02	5*01:02	*01:01		*05:01	*05:03	*02:01	*02:02P	*01:01	*05:01		DQA1*01:04 DQA1*01:05
3224	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01	NGS	
3511	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:03	*02:01	*02:02P	*01:01	*05:01	SSP SSO	
3519	*14:10	*15:02P	3*02:02P	5*01:02	NEW	*01:04	*05:01	*05:10			*01:01	*05:01	SSP NGS RT-PCR	DRB1*15:02 DRB1*15:140 DRB1*15:149 DRB3*02:02
3966	*14:10	*15:02	3*02:02	5*01:02			*05:01	*05:03					SSP	
4337	*14:10	*15:02					*05:01	*05:10			*01:01	*05:01	SSP SBT NGS	
5130	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10			*01:01	*05:01	SSO NGS	DRB1*15:140 DRB1*15:149
5133	*14:10	*15:02:01	3*02:02:01	5*01:02	*01:01	*01:04:01	*05:01:24	*05:10	*02:01:01	*02:02:02	*01:01:01	*05:01:01	NGS	
5219	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSO NGS	
5451	*14:10	*15:02:01											SSO SBT	
5488	*14:10	*15:02:01G		5*01:02			*05:01:24	*05:10	*02:01:01	*02:02:02	*01:01:01	*05:01:01	SSO SBT NGS	
5642	*14:10	*15:02					*05:01						SSP SSO	
8021	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01	SSO NGS	
8043	*14:10	*15:02	3*02:02:01	5*01:02:01G	*01:01	*01:04	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01	SSP SSO NGS	
8086	*14:10	*15:02	3*02:02	5*01:02	*01:01	*01:04	*05:01	*05:10	*02:01:01G	*02:02:02G	*01:01	*05:01	SBT	
8122	*14:10	*15:02	3*02:02	5*01:02	*01:01	NEW	*05:01	*05:10	*02:01	*02:02	*01:01	*05:01	NGS	

**Table 4: Individual laboratory results for B-cell #591 - Class I**

Table 4: Individual laboratory results for B-cell #591 - Class I														
Low resolution							High resolution						METHOD	Other Alleles
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
230							*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	NGS	
278	*11	*33	*18	*52	*07	*07	*11:01	*33:03	*18:01	*52:01	*07:02	*07:04		
725	*11	*33	*18	*52	*07								SSO	
747							*11:01:01	*33:03:01	*18:01:01	*52:01:01	*07:02:01	*07:04:01	SSP SSO NGS	
792	*11	*33	*18	*52	*07	*07	*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SSO NGS	
793	*11	*33	*18	*52	*07								SSP	
794	*11	*33	*18	*52	*07		*11:01:01	*33:03:01	*18:01:01	*52:01:01	*07:02:01	*07:04:01	SSP SSO NGS	
2344							*11:01:01	*33:03:01	*18:01:01	*52:01:01	*07:02:01	*07:04:01	RT-PCR	
2400	*11	*33	*18	*52	*07	*07	*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	NGS	
2847	*11	*33	*18	*52	*07	*07							SSO NGS	
3135													SSO	
3224							*11:01P	*33:03P	*18:01P	*52:01P	*07:02P	*07:04P		
3511							*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	NGS	
							*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SSP SSO	
3519	*11	*33	*18	*52	*07		*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SSP NGS	
3753	*11	*33	*18	*52	*07	*07							RT-PCR	
3966	*11	*33	*18	*52	*07	*07							SSO	
4079	*11	*33	*18	*52	*07	*07							SSP	
4337							*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SSO	
5130	*11	*33	*18	*52	*07	*07	*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SSP SBT NGS	
5133							*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SSO NGS	A*11:43 A*33:51
5214							*11:01:01:25	*33:03:01:01	*18:01:01	*52:01:01:01	*07:02:01	*07:04:01	NGS	
5219	*11	*33	*18	*52	*07								RT-PCR	
5462	*11	*33	*18	*52	*07	*07	NT	NT	NT	NT	NT	NT	SSO NGS	
5488							*11:01:01	*33:03:01	*18:01:01	*52:01:01	*07:02:01	*07:04:01	SSO RT-PCR	
8021							*11:01:01	*33:03:01	*18:01:01	*52:01:01	*07:02:01	*07:04:01	SSO SBT NGS	
8029	*11	*33	*18	*52	*07	*07	*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SSO NGS	
8043							*11:01	*33:03	*18:01	*52:01	*07:02	*07:04		
8068	*11	*33	*18	*52	*07	*07							SSP SSO NGS	
8086													SSO	
8122							*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	SBT	
8123	*11	*33	*18	*52	*07	*07	*11:01	*33:03	*18:01	*52:01	*07:02	*07:04	NGS	

**Table 5a: Individual laboratory results for B-cell #592 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
278	*08	*14	3*01	NT	*04	*05	*03	*04	*01	*01	*04	*04		
725	*08	*14	3*01		*04	*05	*03(DQ7)	*04					SSO	
747	*08	*14	3*01		*04	*05	*03	*04	*01	*01	*04	*04	SSP SSO NGS	
792	*08	*14	3*01		*04	*05	*03(DQ7)	*04	*01	*01	*04(DP402)	04(DP402)	SSO NGS	
793	*08	*14	3*01		*04	*05	*03(DQ7)	*04			*04(DP402)		SSP	
794	*08	*14	3*01		*04	*05	*03	*04	*01		*04		SSP SSO NGS	
2400	*08	*14	3*01	NP	*04	*05	*03	*04	NT	NT	*04		RT-PCR	
2847	*08	*14											SSO	
3519	*08	*14	3*01		*04	*05	*03(DQ7)	*04	*01		*04(DP402)		SSP NGS	
3753	*08	*14	NP	3*01	*04	*05	*03(DQ7)	*04	*01	*01	*04(DP402)	04(DP402)	RT-PCR	
3966	*08	*14		3*01			*03(DQ7)	*04					SSO	
4079	*08	*14	3*01		*04	*05	*03(DQ7)	*04	*01		*04(DP402)		SSP	
5130	*08	*14	3*01		*04	*05	*03	*04			*04	*04	SSO	
5214	*08	*14	3*01		*04	*05	*03(DQ7)	*04	*01		*04(DP402)		SSO NGS	
5219	NT	NT	NT	NT	*04	*05	*03	*04	NT	NT	NT	NT	RT-PCR	
5451	*08	*14	3*01		*04	*05	*03	*04					SSO NGS	
5462	*08	*14	3*01	NP	*04	*05	*03	*04	*01		NT	NT	SSO SBT	
5488	NT												SSO RT-PCR	
5642	*08	*14	3*PRESENT				*03(DQ7)	*04					SSO SBT NGS	
6649	*08	*14					*03(DQ7)	*04					SSP SSO	
8029	*08	*14			*04	*05	*03	*04					SSO	
8043	*08	*14	3*PRESENT		*04	*05	*03	*04					SSP SSO NGS	
8068	*08	*14			*04	*05	*03	*04					SSO	
8123	*08	*14	3*01		*04	*05	*03(DQ7)	*04	*01	*01	*04(DP402)	04(DP402)		

**Table 5b: Individual laboratory results for B-cell #592 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
230	*08:02	*14:02	3*01:01	3*01:01	*04:01	*05:03	*03:01	*04:02	*01:03	*01:03	*04:02	*04:02	NGS	
278	*08:02	*14:02	3*01:01	NT	*04:01	*05:03	*03:01	*04:02	*01:03	*01:03	*04:02	*04:02		
747	*08:02:01	*14:02:01	3*01:01:02		*04:01:01	*05:03:01	*03:01	*04:02:01	*01:03:01	*01:03:01	*04:02:01	*04:02:01	SSP SSO NGS	DQB1*03:276N
762	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03		*04:02		NGS	
792	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03	01:03	*04:02	*04:02	SSO NGS	
793					*04:01	*05:03					*04:02		SSP	
794	*08:02:01	*14:02:01	3*01:01		*04:01:01	*05:03:01	*03:01:01	*04:02:01	*01:03:01		*04:02:01		SSP SSO NGS RT-PCR	
2344	*08:02:01	*14:02:01	NT	NT	NT	NT	*03:01:01	*04:02:01	NT	NT	*04:02:01	*04:02:01	NGS	
2400	*08:02	*14:02	3*01:01	NP	*04:01	*05:03	*03:01	*04:02	NT	NT	*04:02:01G		SSO NGS	DQB1*03:276N
3135	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03		*04:02			
3224	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03		*04:02		NGS	
3511	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03	*01:03	*04:02	*04:02	SSP SSO	
3519	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03		*04:02		SSP NGS RT-PCR	
3966		*14:02		3*01:01			*03:01	*04:02					SSP	
4337	*08:02	*14:02					*03:01	*04:02			*04:02	*04:02	SSP SBT NGS	
5130	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02			*04:02	*04:02	SSO NGS	
5133	*08:02:01	*14:02:01	3*01:01:02		*04:01:01	*05:03:01	*03:01:01	*04:02:01	*01:03:01		*04:02:01		NGS	
5219	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSO NGS	
5451	*08:02:01	*14:02:01											SSO SBT	
5488	*08:02:01	*14:02:01	3*01:01:02		*04:01:01	*05:03:01	*03:01:01G	*04:02:01	*01:03:01		*04:02:01		SSO SBT NGS	
5642	*08:02	*14:02					*03:01	*04:02					SSP SSO	
8021	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03		*04:02		SSO NGS	
8043	*08:02	*14:02	3*01:01:02G		*04:01	*05:03	*03:01	*04:02		*01:03	*04:02		SSP SSO NGS	
8086	*08:02	*14:02	3*01:01		*04:01	*05:03	*03:01	*04:02	*01:03:01G	*01:03:01G	*04:02	*04:02	SBT	
8122	*08:02	*14:02	NP	3*01:01	*04:01	*05:03	*03:01	*04:02	*01:03		*04:02		NGS	



**Table 6: Individual laboratory results for B-cell #592 - Class I**

Low resolution							High resolution						METHOD	Other Alleles
Center	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
230							*02:11	*24:53	*40:04	*40:04	*03:04	*03:04	NGS	
278	*02	*24	*40	*40	*03	*03	*02:11	*24:53	*40:04	*40:04	*03:04	*03:04		
725	*02	*24	*40(B61)		*03(Cw10)								SSO	
747							*02:11:01	*24:53	*40:04:01	*40:04:01	*03:04:01	*03:04:01	SSP SSO NGS	
792	*02	*24	*40(B61)	*40(B61)	*03(Cw10)	*03(Cw10)	*02:11	*24:53	*40:04	*40:04	*03:04	*03:04	SSO NGS	
793	*02	*24	*40(B61)		*03(Cw10)								SSP	
794	*02	*24	*40		*03		*02:11:01	*24:53	*40:04:01		*03:04:01		SSP SSO NGS RT-PCR	
2344							*02:11:01	*24:53	*40:04:01	*40:04:01	*03:04:01	*03:04:01	NGS	
2400	*02	*24	*40		*03		*02:11	*24:53	*40:04		*03:04		SSO NGS	
2847	*02	*24	*40		*03								SSO	
3135							*02:11:01	*24:53	*40:04		*03:04P			
3224							*02:11	*24:53	*40:04		*03:04		NGS	
3511							*02:11	*24:53	*40:04	*40:04	*03:04	*03:04	SSP SSO	
3519	*02	*24	*40(B61)		*03(Cw10)		*02:11	*24:53	*40:04		*03:04		SSP NGS RT-PCR	
3753	*02	*24	*40(B61)	*40(B61)	*03(Cw10)	*03(Cw10)							SSO	
3966	*02	*24	*40	*40	*03	*03							SSP	
4079	*02	*24	*40(B61)	*40(B61)	*03(Cw10)	*03(Cw10)							SSO	
4337							*02:11	*24:53	*40:04	*40:04	*03:04	*03:04	SSP SBT NGS	
5130	*02	*24	*40	*40	*03	*03	*02:11	*24:53	*40:04	*40:04	*03:04	*03:04	SSO NGS	
5133							*02:11:01:01	*24:53	*40:04:01		*03:04:01:02		NGS	
5214	*02	*24	*40		*03(Cw10)								RT-PCR	
5219	*02	*24	*40	*40	*03	*03	NT	NT	NT	NT	NT	NT	SSO NGS	
5462	*02	*24	*40		*03								SSO RT-PCR	
5488							*02:11:01	*24:53	*40:04:01		*03:04:01		SSO SBT NGS	
8021							*02:11	*24:53	*40:04		*03:04		SSO NGS	
8029	*02	*24	*40	*40	*03	*03								
8043							*02:11	*24:53	*40:04		*03:04		SSP SSO NGS	
8068	*02	*24	*40	*40	*03	*03							SSO	
8086							*02:11	*24:53	*40:04	*40:04	*03:04	*03:04	SBT	
8122							*02:11	*24:53	*40:04		*03:04		NGS	
8123	*02	*24	*40(B61)	*40(B61)	*03(Cw10)	*03(Cw10)								

## CELL EXCHANGE #425

The results for Cell Exchange #425 are summarized in Table 7 - 10. Molecular typing results for individual laboratories are listed in Tables 11 – 18 for each sample.

We would like to thank the labs performing NGS for sharing their findings. Haplotype frequencies used in this report are from the NMDP Bioinformatics website, <https://bioinformatics.bethematchclinical.org/>.

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**Cell 1697.** The reported HLA type for this cell from a Hispanic donor was A\*02:06-A\*24:02-B\*35:14-C\*04:01-DRB1\*16:02-DRB5\*02:02-DQA1\*05:05-DQB1\*03:01-DPA1\*01:03-DPB1\*04:02.

Likely associations present in this cell were A\*02:06-B\*35:14-DRB1\*16:02-DQB1\*03:01 and A\*24:02-B\*35:14-DRB1\*16:02-DQB1\*03:01. Each were observed exclusively in Hispanic populations, with identical frequencies of HF = 0.00047. The A\*24:02-B\*35:15-C\*04:01 association in this cell was observed in 2 other Exchange cells, cell 1305 and cell 1663, both from Hispanic donors.

Good agreement (> 90%) was achieved for all allele assignments.

**Cell 1698.** The reported HLA type for this cell from a Hispanic donor was A\*02:01-A\*68:01-B\*35:12-B\*51:08-C\*04:01-C\*16:02-DRB1\*04:04-DRB1\*12:01-DRB3\*02:02-DRB4\*01:03-DQA1\*03:01-DQA1\*05:05-DQB1\*03:01-DQB1\*03:02-DPA1\*01:03-DPB1\*04:01-DPB1\*04:02.

Likely associations present in this cell were B\*35:12-C\*04:01 and B\*51:08-C\*16:02, with respective HF = 0.01756 and 0.00151, in Hispanics. The B\*35:12-C\*04:01 association in this cell was examined in 3 other Exchange cells, cells 1068, 1312, and 1679, each from Hispanic donors.

Good agreement (> 90%) was achieved for all allele assignments.

**Cell 1699.** The reported HLA type for this cell from a Hispanic donor was A\*24:02-A\*33:05-B\*14:02-B\*45:01-C\*08:02-C\*16:01-DRB1\*04:03-DRB1\*10:01-DRB4\*01:03-DQA1\*01:05-DQA1\*03:01-DQB1\*03:02-DQB1\*05:01-DPA1\*01:03-DPA1\*02:01-DPB1\*02:01-DPB1\*03:01.

One possible association present in this cell was A\*24:02-B\*45:01-C\*16:01, observed in Hispanics, with HF = 0.00139. The other association present was likely A\*33:05-B\*14:02-C\*08:02, observed in Caucasians, with HF = 0.00025.

This cell was examined numerous times in the Exchange as cells 1565 (2016), 1504 (1013), 1357 (2009) and extracts 508 (2011) and 436 (2008). In this present retyping, > 90% agreement was achieved once again for all allele assignments.

**Cell 1700.** The reported HLA type for this cell from a Filipino donor was A\*11:01-A\*24:02-B\*39:01-B\*40:01-C\*07:02-DRB1\*09:01-DRB1\*15:02-DRB4\*01:03-DRB5\*01:02-DQA1\*01:01-DQA1\*03:02-DQB1\*03:03-DQB1\*05:01-DPA1\*02:02-DPB1\*01:01.

Likely associations present in this cell were A\*11:01-B\*39:01-C\*07:02 and A\*24:02-B\*40:01-C\*07:02, observed in Asian populations, with respective HF = 0.00619 and 0.00908.

Good agreement (> 90%) was achieved for all allele assignments.

**Table 7: Summary of the 425<sup>th</sup> Cell Exchange - DNA Typing**

**Cell 1697**

DNA Typing - class I	<b><u>11 labs High; 10 labs low- A</u></b>		<b><u>12 labs High; 10 labs low- B</u></b>		<b><u>11 labs High; 9 labs low- C</u></b>	
		%(n)		%(n)		%(n)
	A*02:06:01:01	9 (1)	B*35:14:01	25(3)	C*04:01:01	27(3)
	A*02:06:01	18(2)	B*35:14	75(9)	C*04:01	73(8)
	A*02:06	73(8)	B*35	100(10)	C*04	100(9)
	A*02	100(10)				

DNA Typing - class II	<b><u>10 labs High; 6 labs low-DRB1</u></b>		<b><u>7 labs High; 3 labs low-DRB3/4/5</u></b>		<b><u>8 labs High; 4 labs Low-DQA1</u></b>		<b><u>9 labs High; 6 labs Low-DQB1</u></b>		<b><u>7 labs High; 2 labs Low-DPA1</u></b>		<b><u>9 labs High; 4 labs Low-DPB1</u></b>	
		%(n)		%(n)		%(n)		%(n)		%(n)		%(n)
	DRB1*16:02:01	30(3)	DRB5*02:02:01	29(2)	DQA1*05:05:01	25(2)	DQB1*03:01:01	33(3)	DPA1*01:03:01	29(2)	DPB1*04:02:01	33(3)
	DRB1*16:02:01G	10(1)	DRB5*02:02:01G	14(1)	DQA1*05:05	75(6)	DQB1*03:01:01G	11(1)	DPA1*01:03	71(5)	DPB1*04:02	67(6)
	DRB1*16:02	60(6)	DRB5*02:02	57(4)	DQA1*05	100(4)	DQB1*03:01	56(5)	DPA1*01	100(2)	DPB1*04(DP402)	25(1)
	DRB1*16	83(5)	DRB5*02	67(2)			DQB1*03(DQ7)	33(2)			DPB1*04	75(3)
	DRB1*15	17(1)	DRB5*PRESENT	33(1)			DQB1*03	67(4)				

**Table 8: Summary of the 425<sup>th</sup> Cell Exchange - DNA Typing**

**Cell 1698**

DNA Typing - class I	<u>11 labs High;10 labs low- A</u>		<u>12 labs High; 10 labs low- B</u>		<u>11 labs High; 9 labs low- C</u>	
		%(n)		%(n)		%(n)
	A*02:01:01:01	9 (1)	B*35:12:01:01	17(2)	C*04:01:01:79	9 (1)
	A*02:01:01	18(2)	B*35:12:01	8 (1)	C*04:01:01	18(2)
	A*02:01	73(8)	B*35:12	75(9)	C*04:01	73(8)
	A*02	90(9)	B*35	100(10)	C*04	100(9)
	A*69	10(1)				
DNA Typing - class I	<u>11 labs High;10 labs low- A</u>		<u>12 labs High; 10 labs low- B</u>		<u>12 labs High; 9 labs low- C</u>	
		%(n)		%(n)		%(n)
	A*68:01:01:02	9 (1)	B*51:08:01:01	8 (1)	C*16:02:01:01	8 (1)
	A*68:01:01	18(2)	B*51:08:01	17(2)	C*16:02:01	17(2)
	A*68:01	73(8)	B*51:08	75(9)	C*16:02	75(9)
	A*68	100(10)	B*51	100(10)	C*16	89(8)
					C*03	11(1)

DNA Typing - class II	<u>9 labs High; 6 labs low-DRB1</u>		<u>7 labs High; 2 labs low-DRB3/4/5</u>		<u>9 labs High; 4 labs Low-DQA1</u>		<u>9 labs High; 6 labs Low-DQB1</u>		<u>7 labs High; 2 labs Low-DPA1</u>		<u>9 labs High; 4 labs Low-DPB1</u>	
		%(n)		%(n)		%(n)		%(n)		%(n)		%(n)
	DRB1*04:04:01	33(3)	DRB3*02:02:01	29(2)	DQA1*03:01:01	22(2)	DQB1*03:01:01	11(1)	DPA1*01:03:01	29(2)	DPB1*04:01:01	22(2)
	DRB1*04:04	67(6)	DRB3*02:02:01G	14(1)	DQA1*03:01	78(7)	DQB1*03:01:01G	11(1)	DPA1*01:03:01G	14(1)	DPB1*04:01:01G	11(1)
	DRB1*04	83(5)	DRB3*02:02	57(4)	DQA1*03	100(4)	DQB1*03:01	78(7)	DPA1*01:03	57(4)	DPB1*04:01P	11(1)
	DRB1*12	17(1)	DRB3*02	50(1)			DQB1*03(DQ7)	33(2)	DPA1*01	100(2)	DPB1*04:01	56(5)
			DRB3*PRESENT	50(1)			DQB1*03	67(4)			DPB1*04(DP401)	25(1)
											DPB1*04	75(3)
DNA Typing - class II	<u>9 labs High; 6 labs low-DRB1</u>		<u>7 labs High; 2 labs low-DRB3/4/5</u>		<u>8 labs High; 4 labs Low-DQA1</u>		<u>9 labs High; 6 labs Low-DQB1</u>		<u>7 labs High; 2 labs Low-DPA1</u>		<u>9 labs High; 4 labs Low-DPB1</u>	
		%(n)		%(n)		%(n)		%(n)		%(n)		%(n)
	DRB1*12:01:01	33(3)	DRB4*01:03:01	29(2)	DQA1*05:05:01	25(2)	DQB1*03:02:01	22(2)			DPB1*04:02:01	22(2)
	DRB1*12:01:01G	11(1)	DRB4*01:01:01G	14(1)	DQA1*05:05	75(6)	DQB1*03:02:01G	11(1)			DPB1*04:02:01G	11(1)
	DRB1*12:01	56(5)	DRB4*01:03	57(4)	DQA1*05	100(4)	DQB1*03:02	67(6)			DPB1*04:02P	11(1)
	DRB1*12	100(6)	DRB4*01	50(1)			DQB1*03(DQ8)	33(2)			DPB1*04:02	56(5)
			DRB4*PRESENT	50(1)			DQB1*03	67(4)			DPB1*04(DP402)	25(1)
											DPB1*04	50(2)
											DPB1*04	25(1)
											DPB1*33	25(1)

**Table 9: Summary of the 425<sup>th</sup> Cell Exchange - DNA Typing**

**Cell 1699**

DNA Typing - class I	<u>9 labs High; 7 labs low- A</u>		<u>10 labs High; 8 labs low- B</u>		<u>9 labs High; 7 labs low- C</u>	
		%(n)		%(n)		%(n)
	A*24:02:01:01	11(1)	B*14:02:01	20(2)	C*08:02:01:01	11(1)
	A*24:02:01	11(1)	B*14:02	80(8)	C*08:02:01	11(1)
	A*24:02	78(7)	B*14	100(8)	C*08:02	78(7)
A*24	100(7)			C*08	100(7)	
<u>9 labs High; 8 labs low- A</u>		<u>10 labs High; 8 labs low- B</u>		<u>10 labs High; 6 labs low- C</u>		
	%(n)		%(n)		%(n)	
A*33:05	100(9)	B*45:01:01	20(2)	C*16:01:01:01	10(1)	
A*33	100(8)	B*45:01	80(8)	C*16:01:01	10(1)	
		B*45	88(7)	C*16:01	80(8)	
		B*59	12(1)	C*16	100(6)	

DNA Typing - class II	<u>8 labs High; 5 labs low-DRB1</u>		<u>5 labs High; 1 lab low-DRB3/4/5</u>		<u>6 labs High; 4 labs Low-DQA1</u>		<u>8 labs High; 5 labs Low-DQB1</u>		<u>5 labs High; 2 labs Low-DPA1</u>		<u>8 labs High; 4 labs Low-DPB1</u>	
		%(n)		%(n)		%(n)		%(n)		%(n)		%(n)
	DRB1*04:03:01	12(1)	DRB4*01:03:01	20(1)	DQA1*01:05:01	17(1)	DQB1*03:02:01	12(1)	DPA1*01:03:01	20(1)	DPB1*02:01:02:35	12(1)
	DRB1*04:03:01G	12(1)	DRB4*01:01:01G	20(1)	DQA1*01:05	83(5)	DQB1*03:02:01G	12(1)	DPA1*01:03	80(4)	DPB1*02:01P	12(1)
	DRB1*04:03	75(6)	DRB4*01:03	60(3)	DQA1*01	100(4)	DQB1*03:02	75(6)	DPA1*01	100(2)	DPB1*02:01	75(6)
DRB1*04	100(5)	DRB4*PRESENT	100(1)			DQB1*03(DQ8)	20(1)			DPB1*02(DP201)	25(1)	
						DQB1*03	80(4)			DPB1*02	75(3)	
<u>8 labs High; 5 labs low-DRB1</u>		<u>7 labs High; 4 labs Low-DQA1</u>		<u>8 labs High; 5 labs Low-DQB1</u>		<u>5 labs High; 2 labs Low-DPA1</u>		<u>8 labs High; 4 labs Low-DPB1</u>				
	%(n)		%(n)		%(n)		%(n)		%(n)			
DRB1*10:01:01	12(1)	DQA1*03:01:01	14(1)	DQB1*05:01:01	25(2)	DPA1*02:01:01	20(1)	DPB1*03:01:01	12(1)			
DRB1*10:01:01G	12(1)	DQA1*03:01	86(6)	DQB1*05:01:01G	12(1)	DPA1*02:01	80(4)	DPB1*03:01:01G	12(1)			
DRB1*10:01	75(6)	DQA1*03	100(4)	DQB1*05:01	63(5)	DPA1*02	100(2)	DPB1*03:01P	12(1)			
DRB1*10	100(5)			DQB1*05	100(5)			DPB1*03:01	63(5)			
								DPB1*03	100(4)			

Table 10: Summary of the 425<sup>th</sup> Cell Exchange - DNA Typing

Cell 1700

DNA Typing - class I	<b><u>9 labs High; 8 labs</u></b>		<b><u>9 labs High; 8 labs</u></b>		<b><u>10 labs High; 7 labs</u></b>	
	<b><u>low- A</u></b>	%(n)	<b><u>low- B</u></b>	%(n)	<b><u>low- C</u></b>	%(n)
	A*11:01:01:01	11(1)	B*39:01:01:03	11(1)	C*07:02:01:15	10(1)
	A*11:01	89(8)	B*39:01	89(8)	C*07:02:01	10(1)
	A*11	100(8)	B*39	100(8)	C*07:02:01G	10(1)
					C*07:02	70(7)
					C*07	100(7)

DNA Typing - class II	<b><u>8 labs High; 5 labs</u></b>		<b><u>5 labs High; 1 lab</u></b>	
	<b><u>low-DRB1</u></b>	%(n)	<b><u>low-DRB3/4/5</u></b>	%(n)
	DRB1*09:01:02	12(1)	DRB4*01:03:02	20(1)
	DRB1*09:01:02G	25(2)	DRB4*01:03	80(4)
	DRB1*09:01	63(5)	DRB4*PRESENT	100(1)
	DRB1*09	80(4)		
	DRB1*11	20(1)		

<b><u>8 labs High; 5 labs</u></b>		<b><u>5 labs High; 1 lab</u></b>	
<b><u>low-DRB1</u></b>	%(n)	<b><u>low-DRB3/4/5</u></b>	%(n)
DRB1*15:02:01	12(1)	DRB5*01:02	100(5)
DRB1*15:02:01G	25(2)	DRB5*PRESENT	100(1)
DRB1*15:02	63(5)		
DRB1*15	100(5)		

<b><u>6 labs High; 4 labs</u></b>		<b><u>6 labs High; 4 labs</u></b>	
<b><u>Low-DQA1</u></b>	%(n)	<b><u>Low-DQA1</u></b>	%(n)
DQA1*01:01:01:01	17(1)	DQA1*03:02:01	17(1)
DQA1*01:01:01	83(5)	DQA1*03:02	83(5)
DQA1*01	100(4)	DQA1*03	100(4)

<b><u>8 labs High; 5 labs</u></b>		<b><u>8 labs High; 5 labs</u></b>	
<b><u>Low-DQB1</u></b>	%(n)	<b><u>Low-DQB1</u></b>	%(n)
DQB1*03:03:02	12(1)	DQB1*05:01:24	12(1)
DQB1*03:03:02G	12(1)	DQB1*05:01:01G	12(1)
DQB1*03:03	75(6)	DQB1*05:01	75(6)
DQB1*03(DQ9)	20(1)	DQB1*05	100(5)
DQB1*03	60(3)		
DQB1*06	20(1)		

<b><u>4 labs High; 2 labs</u></b>	
<b><u>Low-DPA1</u></b>	%(n)
DPA1*02:02:02	25(1)
DPA1*02:02	75(3)
DPA1*02	50(2)

<b><u>8 labs High; 4 labs</u></b>	
<b><u>Low-DPB1</u></b>	%(n)
DPB1*01:01:01	12(1)
DPB1*01:01	88(7)
DPB1*01	100(4)

**Table 11. Individual laboratory results for Cell #1697 - 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	*35	*35	*04	*04	*02:06	*24:02	*35:14	*35:11	*04:01	*04:01		
725	*02	*24	*35		*04								SSO	
731	*02	*24	*35	*35	*04	*04	*02:06:01	*24:02:01	*35:14:01	*35:14:01	*04:01:01	*04:01:01		
747	*02	*24	*35	*35	*04	*04	*02:06:01	*24:02:01	*35:14:01	*35:14:01	*04:01:01	*04:01:01	SSP SSO NGS	
762							*02:06	*24:02	*35:14		*04:01		NGS	
771	*02	*24	*35		*04		*02:06	*24:02	*35:14		*04:01		SSO NGS	
3808	*02	*24	*35	*35	*04	*04			*35:14	*35:14			SSO	
4079	*02	*24	*35		*04		*02:06	*24:02	*35:14		*04:01		SSP NGS	
4251							*02:06	*24:02	*35:14	*35:14	*04:01	*04:01	NGS	
5133							*02:06:01:01	*24:02:01:01	*35:14:01		*04:01:01		NGS	
5462							*02:06	*24:02	*35:14		*04:01		SSP SSO NGS	
8001							*02:06	*24:02	*35:14		*04:01		NGS	
6649	*02	*24	*35	*35									SSO	
8043							*02:06	*24:02	*35:14		*04:01			
8058	*02	*24	*35	*15(B70)	*04								SSP OTHER	
8103	*02	*24	*35	*35	*04	*04							SSO	

**Table 12a: Individual laboratory results for Cell #1697 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*16	*16	5*02		*05	*05	*03	*03			*04	*04		
747	NT												SSP SSO NGS	
771	*16				*05		*03				*04		SSO NGS	
3808	*16	*16	NT	NT	*05	*05	*03(DQ7)	*03(DQ7)	*01	*01	*04(DP402)	*04(DP402)	SSO	
4079	*16		5*02				*03(DQ7)						SSP NGS	
6649													SSO	
8058	*15	*15	5*PRESENT				*03	*03					SSP OTHER	
8103	*16	*16			*05	*05	*03	*02	*01		*04	*04	SSO	

**Table 12b: Individual laboratory results for Cell #1697 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*16:02:01	*16:02:01			*05:05	*05:05	*03:01:01	*03:01:01			*04:02:01	*04:02:01		
747	*16:02:01	*16:02:01	5*02:02:01	5*02:02:01	*05:05:01	*05:05:01	*03:01:01	*03:01	*01:03:01	*01:03:01	*04:02:01	*04:02:01	SSP SSO NGS	DRB1*16:64
771	*16:02						*03:01				*04:02		SSO NGS	
3808	*16:02	*16:02:01G							*01:03	*01:03			SSO	
4079	*16:02		5*02:02		*05:05		*03:01		*01:03		*04:02		SSP NGS	
4251	*16:02:01G	*16:02:01G	5*02:02:01G	5*02:02:01G	*05:05	*05:05	*03:01:01G	*03:01:01G	*01:03	*01:03	*04:02	*04:02	NGS	
5133	*16:02:01		5*02:02:01		*05:05:01		*03:01:01		*01:03:01		*04:02:01		NGS	
5462	*16:02		5*02:02		*05:05		*03:01		*01:03		*04:02		SSP SSO NGS	
8001	*16:02		5*02:02		*05:05		*03:01				*04:02		NGS	DQB1*03:276
8043	*16:02		5*02:02		*05:05		*03:01		*01:03		*04:02			N



**Table 13. Individual laboratory results for Cell #1698 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*02	*68	*35	*51	*04	*16	*02:01	*68:01	*35:12	*51:08	*04:01	*16:02		
725	*02	*68	*35	*51	*04	*16							SSO	
731	*02	*68	*35	*51	*04	*16	*02:01:01:01	*68:01:01	*35:12:01:01	*51:08:01	*04:01:01	*16:02:01		
747	*02	*68	*35	*51	*04	*16	*02:01:01	*68:01:01	*35:12:01	*51:08:01	*04:01:01	*16:02:01	SSP SSO NGS	
762							*02:01	*68:01	*35:12	*51:08	*04:01	*16:02	NGS	
771	*02	*68	*35	*51	*04	*16	*02:01	*68:01	*35:12	*51:08	*04:01	*16:02	SSO NGS	
3808	*02	*68	*35	*51	*04	*16			*35:12	*51:08		*16:02	SSO	
4079	*02	*68	*35	*51	*04	*16	*02:01	*68:01	*35:12	*51:08	*04:01	*16:02	SSP NGS	
4251							*02:01	*68:01	*35:12	*51:08	*04:01	*16:02	NGS	
5133							*02:01:01:01	*68:01:01:02	*35:12:01:01	*51:08:01:01	*04:01:01:79	*16:02:01:01	NGS	
5462							*02:01	*68:01	*35:12	*51:08	*04:01	*16:02	SSP SSO NGS	
6649	*02	*68	*35	*51									SSO	
8001							*02:01	*68:01	*35:12	*51:08	*04:01	*16:02	NGS	
8043							*02:01	*68:01	*35:12	*51:08	*04:01	*16:02		
8058	*69	*68	*35	*51	*04	*03							SSP OTHER	
8103	*02	*68	*35	*51	*04	*16							SSO	

**Table 14a: Individual laboratory results for Cell #1698 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04	*12			*03	*05	*03	*03			*04	*04		
747	NT												SSP SSO NGS	
771	*04	*12			*03	*05	*03	*03			*04	*04	SSO NGS	
3808	*04	*12	NT	NT	*03	*05	*03(DQ7)	*03(DQ8)	*01	*01	*04(DP401)	*04(DP402)	SSO	
4079	*04	*12	3*02	4*01			*03(DQ7)	*03(DQ8)					SSP NGS	
8058	*12	*12	3*PRESENT	4*PRESENT			*03	*03					SSP OTHER	
8103	*04	*12			*03	*05	*03	*03	*01	*01	*04	*33	SSO	

**Table 14b: Individual laboratory results for Cell #1698 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04:04:01	*12:01:01			*03:01	*05:05	*03:01	*03:02			*04:01	*04:02		
747	*04:04:01	*12:01:01	3*02:02:01	4*01:03:01	*03:01:01	*05:05:01	*03:01	*03:02:01	*01:03:01	*01:03:01	*04:01:01	*04:02:01	SSP SSO NGS	DPB1*105:01 DPB1*126:01 DRB1*12:10 DQB1*03:289 DQB1*03:416
771	*04:04	*12:01					*03:01	*03:02			*04:01	*04:02	SSO NGS	
3808					*03:01				*01:03	*01:03			SSO	
4079	*04:04	*12:01	3*02:02	4*01:03	*03:01	*05:05	*03:01	*03:02	*01:03		*04:01	*04:02	SSP NGS	
4251	*04:04	*12:01:01G	3*02:02:01G	4*01:01:01G	*03:01	*05:05	*03:01:01G	*03:02:01G	*01:03:01G	*01:03	*04:01:01G	*04:02:01G	NGS	
5133	*04:04:01	*12:01:01	3*02:02:01	4*01:03:01	*03:01:01	*05:05:01	*03:01:01	*03:02:01	*01:03:01		*04:01:01	*04:02:01	NGS	DPB1*126:01:01 DPB1*105:01:01
5462	*04:04	*12:01	3*02:02	4*01:03	*03:01	*05:05	*03:01	*03:02	*01:03		*04:01P	*04:02P	SSP SSO NGS	DPB1*126:01 DPB1*105:01
8001	*04:04	*12:01	3*02:02	4*01:03	*03:01	*05:05	*03:01	*03:02			*04:01	*04:02	NGS	DPB1*126:01 DPB1*665:01 DPB1*939:01 DPB1*105:01
8043	*04:04	*12:01	3*02:02	4*01:03	*03:01	*05:05	*03:01	*03:02	*01:03		*04:01	*04:02		

**Table 15. Individual laboratory results for Cell #1699 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*24	*33	*14	*45	*08	*16	*24:02	*33:05	*14:02	*45:01	*08:02	*16:01		C*16:02
725	*24	*33	*14	*45	*08	*16							SSO	
731	*24	*33	*14	*45	*08	*16	*24:02:01	*33:05	*14:02:01	*45:01:01	*08:02:01	*16:01:01		
747	NT												SSP SSO NGS	
762							*24:02	*33:05	*14:02	*45:01	*08:02	*16:01	NGS	
771	*24	*33	*14	*45	*08	*16	*24:02	*33:05	*14:02	*45:01	*08:02	*16:01	SSO NGS	
3808	*24	*33	*14	*45	*08	*16			*14:02	*45:01		*16:01	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	SSP NGS	
4251							*24:02	*33:05	*14:02	*45:01	*08:02	*16:01	NGS	
5133							*24:02:01:01	*33:05	*14:02:01	*45:01:01	*08:02:01:01	*16:01:01:01	NGS	
5462							*24:02	*33:05	*14:02	*45:01	*08:02	*16:01	SSP SSO NGS	
8001							*24:02	*33:05	*14:02	*45:01	*08:02	*16:01	NGS	
6649	*24	*33	*14	*45									SSO	
8043							*24:02	*33:05	*14:02	*45:01	*08:02	*16:01		
8058		*33	*14	*59	*08								SSP OTHER	
8103	*24	*33	*14	*45	*08	*16							SSO	

**Table 16a: Individual laboratory results for Cell #1699 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04	*10			*01	*03	*03	*05			*02	*03		
747	NT												SSP SSO NGS	
771	*04	*10			*01	*03	*03	*05			*02	*03	SSO NGS	
3808	*04	*10	NT	NT	*01	*03	*03(DQ8)	*05	*01	*02	*02(DP201)	*03	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
8058	*04	*10	4*PRESENT	4*PRESENT				*03					SSP OTHER	
8103	*04	*10			*01	*03	*03	*05	*01	*02	*02	*03	SSO	

**Table 16b: Individual laboratory results for Cell #1699 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*04:03	*10:01			*01:05	*03:01	*03:02	*05:01:01			*02:01	*03:01		
747	NT												SSP SSO NGS	
771	*04:03	*10:01					*03:02	*05:01			*02:01	*03:01	SSO NGS	
3808	*04:03	*10:01				*03:01	*03:02	*05:01	*01:03	*02:01	*02:01	*03:01:01G	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251	*04:03:01G	*10:01:01G	4*01:01:01G		*01:05	*03:01	*03:02:01G	*05:01:01G	*01:03	*02:01:01G	*02:01	*03:01	NGS	
5133	*04:03:01	*10:01:01	4*01:03:01		*01:05:01	*03:01:01	*03:02:01	*05:01:01	*01:03:01	*02:01:01	*02:01:02:35	*03:01:01	NGS	
5462	*04:03	*10:01	4*01:03	NP	*01:05	*03:01	*03:02	*05:01	*01:03	*02:01	*02:01P	*03:01P	SSP SSO NGS	DPB1*352:01 DPB1*124:01
8001	*04:03	*10:01	4*01:03		*01:05	*03:01	*03:02	*05:01			*02:01	*03:01	NGS	
8043	*04:03	*10:01	4*01:03		*01:05	*03:01	*03:02	*05:01	*01:03	*02:01	*02:01	*03:01		

**Table 17. Individual laboratory results for Cell #1700 - Class I**

Center	Low Resolution						High Resolution						Method	Other Alleles
	HLA-A		HLA-B		HLA-C		HLA-A		HLA-B		HLA-C			
278	*11	*24	*39	*40	*07	*07	*11:01	*24:02	*39:01	*40:01	*07:02	*07:02	SSO	
725	*11	*24	*39	*40(B60)	*07									
731	*11	*24	*39	*40	*07	*07	*11:01	*24:02:01	*39:01	*40:01	*07:02:01	*07:02:01	SSP SSO NGS	
747	NT													
762							*11:01	*24:02	*39:01	*40:01	*07:02		NGS	
771	*11	*24	*39	*40	*07		*11:01	*24:02	*39:01	*40:01	*07:02		SSO NGS	
3808	*11	*24	*39	*40(B60)	*07	*07					*07:02:01G	*07:02:01G	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	SSP NGS	
4251							*11:01	*24:02	*39:01	*40:01	*07:02	*07:02	NGS	
5133							*11:01:01:01	*24:02:01:01	*39:01:01:03	*40:01:02:04	*07:02:01:15		NGS	
5462							*11:01	*24:02	*39:01	*40:01	*07:02		SSP SSO NGS	
8114							*11:01	*24:02	*39:01	*40:01	*07:02		NGS	
6649	*11	*24	*39	*40(B60)									SSO	
8043							*11:01	*24:02	*39:01	*40:01	*07:02			
8058	*11	*24	*39	*40(B60)	*07	*17							SSP OTHER	
8103	*11	*24	*39	*40	*07	*07							SSO	

**Table 18a: Individual laboratory results for Cell #1700 - Class II**

Low resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*09	*15			*01	*03	*03	*05			*01	*01		
747	NT												SSP SSO NGS	
771	*09	*15			*01	*03	*03	*05			*01		SSO NGS	
3808	*09	*15	NT	NT	*01	*03	*03(DQ9)	*05	*02	*02	*01		SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
8043														
8058	*11	*15	4*PRESENT	5*PRESENT			*06	*05					SSP OTHER	
8103	*09	*15			*01	*03	*03	*05	*02	*02	*01	*01	SSO	

**Table 18b: Individual laboratory results for Cell #1700 - Class II**

High resolution														
Center	DRB1		DRB3/4/5		DQA1		DQB1		DPA1		DPB1		METHOD	Other Alleles
731	*09:01	*15:02			*01:01	*03:02	*03:03	*05:01			*01:01	*01:01		
747	NT												SSP SSO NGS	
771	*09:01	*15:02					*03:03	*05:01			*01:01		SSO NGS	
3808	*09:01:02G	*15:02:01G					*03:03	*05:01			*01:01	*01:01	SSO	
4079	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	SSP NGS	
4251	*09:01:02G	*15:02:01G	4*01:03	5*01:02	*01:01	*03:02	*03:03:02G	*05:01:01G	*02:02	*02:02	*01:01	*01:01	NGS	
5133	*09:01:02	*15:02:01	4*01:03:02	5*01:02	*01:01:01	*03:02:01	*03:03:02	*05:01:24	*02:02:02		*01:01:01		NGS	
5462	*09:01	*15:02	4*01:03	5*01:02	*01:01	*03:02	*03:03	*05:01	*02:02		*01:01		SSP SSO NGS	
8001	*09:01	*15:02	4*01:03	5*01:02	*01:01	*03:02	*03:03	*05:01			*01:01		NGS	
8043	*09:01	*15:02	4*01:03	5*01:02	*01:01	*03:02	*03:03	*05:01	*02:02		*01:01			

## SERUM EXCHANGE #583

The results for Serum Exchange #583 were summarized in Tables 19 - 26 and individual listing of results are shown in tables 27 - 37. Sera strongly positive to A29, B17 (B57, B58), DR2 (DR15, DR16), DQ1 (DQ5, DQ6), DQ3

(DQ7, DQ8, DQ9), a well as reactivity to a number of 10C specificities were examined in this study.

1325	method	#labs	NEG	B60	B61	B7	B81	B8101	B27	B2708	B2705	B47	A66	A6602	B13	B48	B73	B55	B67
class I	NIH-Std	1	NT																
	AHG	1	NT																
	C1q	2	100%																
	PRA	3		33%	33%	33%	33%					33%		33%					
	SAB	23		100%	100%	100%	96%	17%	96%	22%	13%	91%	61%	57%	87%	83%	74%	65%	65%

  

1325	method	#labs	NEG	B42	B56	Cw2	B82	B8201	Cw5	B703	B40	A10C	A2	B12C	B54	B5C	B7C	Cw4	Cw8
	SAB	23		61%	57%	57%	48%	4%	39%	22%	9%	4%	4%	4%	4%	4%	4%	4%	4%

1325	method	#labs	DQ4	DQ5	DQ6	DR15	DR16	DR51	DQ8	DQ9	DQA1*01	DQA1*04	DQA1*03	DQ3	DR11	DQ1	DQA1*02	DR2
class II	C1q	2	100%	100%	100%	100%	100%	100%	50%									
	PRA	3	33%	67%	67%	33%	33%	33%	33%	33%								
	SAB	21	100%	100%	100%	100%	100%	100%	100%	100%	38%	24%	13%	9%	9%	5%	5%	5%

**Serum 1325.** Anti-B60, -B61, -B7, -B81, -B27, and -B47 reactivity was reported by PRA and single antigen labs. Each were reported by > 90% of SAB labs, with respective MFI = 4876, 4286, 9658, 6529, and 3006. Labs reporting by C1q, reported this sample as negative for class I.

Strong class II reactivity was detected in this sample, with C1q, PRA, and

SAB labs reporting reactivity to DQ4 (9435), DQ5 (21548), DQ6 (22296), DQ8 (6396), DR15 (17528), DR16 (13999), and DR51 (12375). Each were reported by 100% of SAB labs. A number of SAB labs (n = 8), also reported strong DQA1\*01 (18568) reactivity in this sample.

\*(median MFI by SAB)

1326	method	#labs	A29	B44	B45	B82	B8201	A26	A31	A33	A30	B76	A43	A34	A25	
class I	NIH-Std	1	NT													
	AHG	1	NT													
	C1q	3	100%	67%	67%											
	PRA	3	33%	33%	33%	33%		33%	33%	33%	33%					
	SAB	23	100%	100%	100%	96%	4%	91%	91%	87%	78%	100%	96%	78%	74%	
1326	method	#labs	A66	A6602	A6601	A1	B42	A80	A1C	B5C	B7C	A10C	B12	B12C	B15	B41
	SAB	23	65%	13%	9%	26%	17%	9%	4%	4%	4%	4%	4%	4%	4%	4%

1326	method	#labs	NEG	DR7	DR9	DR53	DQ2	DR52	DQA1*05	DPA1*05	DQA1*04
class II	C1q	2	100%								
	PRA	3		33%	33%		33%				
	SAB	21		100%	95%	86%	63%	57%	19%	5%	5%

**Serum 1326.** Strong anti-A29 (13348) reactivity, along with anti-B44 (8768) and –B45 (11651) reactivity was reported in this sample by C1q, PRA, and SAB labs. Each were reported by 100% of SAB labs. Additional reactivity to B82 (6758), A26 (2539), A31 (2770), A33 (2668), and A30 (3441) was reported by SAB and PRA.

Weak class II reactivity was detected in this sample, with > 90% of SAB labs and 1 PRA lab reporting anti-DR7 (3189) and –DR9 (2244) reactivity. Even weaker DR53 (1458) and DQ2 (1508) reactivity was reported by some labs as well. C1q labs detected no C1q-binding of class II antibodies in this sample.

\*(median MFI by SAB)



1327	method	#labs	B57	B58	A25	A26	A32	A66	A6602	A6601	A2	A203	A33	A34	A31	A29	A11	A1101	A1102
class I	NIH-Std	1	NT																
	AHG	2	NT																
	C1q	3	100%	67%	33%														
	PRA	3	33%	33%	33%	33%	33%	33%			33%		33%	33%	33%	33%	33%		
	SAB	24	100%	100%	100%	100%	100%	91%	22%	17%	100%	22%	91%	91%	87%	83%	87%	17%	17%
1327	method	#labs	A74	A68	A69	A43	B63	A10C	A2C	A10	A1C	B5C	A36	B17	B15	B75	B76	B77	
	PRA	3	33%	33%															
	SAB	24	78%	91%	78%	96%	78%	9%	9%	4%	4%	4%	4%	4%	4%	4%	4%	4%	

1327	method	#labs	NEG	DQ8	DQ7	DQ9	DQ2	DR7	DR9	DR52	DR12	DQ4	DQ6	DR1	DR10	DR14	
class II	C1q	2	50%	50%			50%										
	PRA	3		67%	67%	33%	33%	33%	33%			33%	33%	33%	33%	33%	
	SAB	21		100%	100%	100%		100%	95%	57%	48%						
1327	method	#labs	DR4	DQA1*03	DQA1*05	DQA1*06	DQA1*02	DQ3	DPA1*02	DP10	DP14	DP17	DP9	DPw1	DPw5		
	PRA		33%														
	SAB	21		14%	14%	14%	5%	10%	5%	5%	5%	5%	5%	5%	5%		

**Serum 1327.** Strong anti-B57 (15342), -B58 (11907), and -A25 (11665) reactivity was detected in this sample by C1q, PRA, and SAB. Additional reactivity to A2 (4545), A68 (2520), as well as reactivity to a number of 10C specificities, including A26 (6388), A32 (4376), and A66 (5079), was reported by > 90% of SAB labs.

Good agreement was achieved among SAB labs in the reporting of class

II antibodies for this sample, as > 90% of labs reported anti-DQ7 (4297), -DQ8 (4259), -DQ9 (3727), -DR7 (4560), and -DR9 (1571) reactivity. By contrast, no agreement was achieved among labs reporting by C1q, as 1 lab reported weak C1q-binding to DQ8 (1291) and DQ2 (1963), while the other detected no class II C1q-binding antibodies.

\*(median MFI by SAB)

1328	method	#labs	A11	A1101	A1102	A25	A26	A66	A6602	A6601	A34	A31	A33	A43	A68	A1	A2	A203	A3	A36	A74	A80
class I	NIH-Std	1	no consensus																			
	AHG	2	no consensus																			
	C1q	3	100%			100%	67%	100%			100%	67%	67%	100%								
	PRA	3	67%			67%	33%	33%			33%	33%	33%		33%	33%	33%		33%	67%	33%	33%
	SAB	24	96%	17%	17%	100%	100%	96%	22%	17%	100%	100%	100%	100%	100%	100%	100%	17%	100%	100%	100%	100%
1328	method	#labs	A69	A30	A29	A24	A2403	A23	B42	B44	B45	B46	B49	B50	B51	B62	A10C	A1C	A10	A28	A2C	
	PRA	3				33%		33%	33%	33%	33%	33%	33%	33%	33%	33%						
	SAB	24	100%	96%	91%	17%	17%										9%	9%	4%	4%	4%	

1328	method	#labs	DQ7	DQ8	DQ9	DR1	DR10	DR4	DQ4	DR14	DR1404	DR15	DQ2	DQ6
class II	C1q	2	100%	100%	100%	100%		100%						
	PRA	3	67%	67%	67%	67%	67%	67%	67%	33%		33%	33%	33%
	SAB	22	100%	100%	100%	100%	100%	100%	100%	100%	5%	90%	29%	
1328	method	#labs	DR51	DQA1*03	DQA1*06	DQA1*04	DQA1*05	DR13	DP28	DPw2	DQ3	DQA1*02	DP18	DPw1
	SAB	22	86%	76%	33%	24%	14%	14%	10%	10%	10%	5%	5%	5%

**Serum 1328.** Strong anti-A11 (19473) reactivity was detected in this cell by all methods. Additional reactivity to A25 (12379), A26 (14046), A66 (14120), A34 (14852), A31 (10068), and A33 (8708) was reported by C1q, PRA, and SAB labs. Reactivity to a number of other 1C and 10C specificities was also reported by various methods.

Strong class II reactivity was detected in this sample, with C1q, PRA, and

SAB labs each detecting anti-DQ7 (17213), -DQ8 (17695), -DQ9 (16817), -DR1 (13661), and -DR4 (17549) reactivity. Each were reported by 100% of SAB labs. In addition, PRA and SAB labs detected reactivity to a number of other DR and DQ specificities, including reactivity to DR10 (8066), DQ4 (4993), DR14 (5318), and DR15 (2845). A number (n = 16) of SAB labs also reported anti-DQA1\*03 (9617) reactivity.

\*(median MFI by SAB)

**NEXT MAILING DATE: February 2, 2022**

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**Table 19. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by NIH-Standard - class I**

Method: NIH-Standard											
<b>*** Serum 1325 ***</b>			<b>*** Serum 1326 ***</b>			<b>*** Serum 1327 ***</b>			<b>*** Serum 1328 ***</b>		
1 typing Lab			1 typing Lab			1 typing Lab			1 typing Lab		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
NT			NT			NT			no Consensus		

**Table 20. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by Antiglobulin - class I**

Method: Antiglobulin											
<b>*** Serum 1325 ***</b>			<b>*** Serum 1326 ***</b>			<b>*** Serum 1327 ***</b>			<b>*** Serum 1328 ***</b>		
1 typing Lab			1 typing Lab			1 typing Lab			1 typing Lab		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
NT			NT			NT			No consensus		

**Table 21. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by C1q - class I**

Method: C1q											
<b>*** Serum 1325 ***</b>			<b>*** Serum 1326 ***</b>			<b>*** Serum 1327 ***</b>			<b>*** Serum 1328 ***</b>		
2 typing Labs			3 typing Labs			3 typing Labs			3 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
NEG	100%	-	A29	100%	100%	B57	100%	100%	A11	100%	100%
			B44	67%	100%	B58	67%	100%	A25	100%	100%
			B45	67%	100%	A25	33%	100%	A34	100%	100%
									A43	100%	100%
									A66	100%	100%
									A26	67%	100%
									A31	67%	100%
									A33	67%	100%

**Table 22. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by PRA - class I**

Method: Luminex-PRA											
*** Serum 1325 ***			*** Serum 1326 ***			*** Serum 1327 ***			*** Serum 1328 ***		
3 typing Labs			3 typing Labs			3 typing Labs			3 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
A6602	33%	100%	A26	33%	100%	A11	33%	100%	A11	67%	100%
B47	33%	100%	A29	33%	100%	A2	33%	100%	A25	67%	100%
B60	33%	100%	A30	33%	100%	A25	33%	100%	A36	67%	100%
B61	33%	100%	A31	33%	100%	A26	33%	100%	A1	33%	100%
B7	33%	100%	A33	33%	100%	A29	33%	100%	A2	33%	100%
B81	33%	100%	B44	33%	100%	A31	33%	100%	A23	33%	100%
			B45	33%	100%	A32	33%	100%	A24	33%	100%
			B82	33%	100%	A33	33%	100%	A26	33%	100%
						A34	33%	100%	A3	33%	100%
						A66	33%	100%	A31	33%	100%
						A68	33%	100%	A33	33%	100%
						A74	33%	100%	A34	33%	100%
						B57	33%	100%	A66	33%	100%
						B58	33%	100%	A68	33%	100%
									A74	33%	100%
									A80	33%	100%
									B42	33%	100%
									B44	33%	100%
									B45	33%	100%
									B46	33%	100%
									B49	33%	100%
									B50	33%	100%
									B51	33%	100%
									B62	33%	100%

**Table 23. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by Single Antigen - class I**

Method: Luminex - SAB											
*** Serum 1325 ***			*** Serum 1326 ***			*** Serum 1327 ***			*** Serum 1328 ***		
23 typing Labs			23 typing Labs			23 typing Labs			23 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
B60	100%	100%	A29	100%	100%	A2	100%	100%	A1	100%	100%
B7	100%	100%	B44	100%	100%	A25	100%	100%	A2	100%	100%
B61	100%	67%	B45	100%	100%	A26	100%	100%	A25	100%	100%
B27	96%	100%	B76	100%	100%	A32	100%	100%	A26	100%	100%
B81	96%	100%	A43	96%	100%	B57	100%	100%	A3	100%	100%
B47	91%	100%	B82	96%	100%	B58	100%	100%	A31	100%	100%
B13	87%	67%	A26	91%	25%	A43	96%	100%	A33	100%	100%
B48	83%	0%	A31	91%	0%	A33	91%	100%	A34	100%	100%
B73	74%	100%	A33	87%	100%	A34	91%	100%	A36	100%	100%
B55	65%	100%	A30	78%	100%	A66	91%	83%	A43	100%	100%
B67	65%	100%	A34	78%	100%	A68	91%	80%	A68	100%	100%
B42	61%	100%	A25	74%	100%	A31	87%	100%	A69	100%	100%
A66	61%	50%	A66	65%	100%	A11	87%	70%	A74	100%	100%
A6602	57%	100%	A1	26%	100%	A29	83%	33%	A80	100%	100%
B56	57%	100%	B42	17%	100%	A69	78%	100%	A11	96%	100%
Cw2	57%	100%	A6602	13%	100%	A74	78%	100%	A66	96%	100%
B82	48%	100%	A6601	9%	100%	B63	78%	100%	A30	96%	83%
Cw5	39%	100%	A80	9%	100%	A203	22%	100%	A29	91%	100%
B2708	22%	100%	A10C	4%	100%	A6602	22%	100%	A6602	22%	100%
B703	22%	100%	A1C	4%	100%	A1101	17%	100%	A1101	17%	100%
B8101	17%	100%	B12	4%	100%	A1102	17%	100%	A1102	17%	100%
B2705	13%	100%	B12C	4%	100%	A6601	17%	100%	A203	17%	100%
B40	9%	100%	B15	4%	100%	A10C	9%	100%	A24	17%	100%
A10C	4%	100%	B41	4%	100%	A2C	9%	100%	A2403	17%	100%
A2	4%	100%	B5C	4%	100%	A10	4%	100%	A6601	17%	100%
B12C	4%	100%	B7C	4%	100%	A1C	4%	100%	A10C	9%	100%
B54	4%	100%	B8201	4%	100%	A36	4%	100%	A1C	9%	100%
B5C	4%	100%				B15	4%	100%	A10	4%	100%
B7C	4%	100%				B17	4%	100%	A28	4%	100%
B8201	4%	100%				B5C	4%	100%	A2C	4%	100%
Cw4	4%	100%				B75	4%	100%			
Cw8	4%	100%				B76	4%	100%			
						B77	4%	100%			

**Table 24. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by C1q - class II**

Method: C1q											
<b>*** Serum 1325 ***</b>			<b>*** Serum 1326 ***</b>			<b>*** Serum 1327 ***</b>			<b>*** Serum 1328 ***</b>		
2 typing Lab			2 typing Lab			2 typing Lab			2 typing Lab		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
DQ4	100%	100%	NEG	100%	-	DQ2	50%	100%	DQ7	100%	100%
DQ5	100%	100%				DQ8	50%	100%	DQ8	100%	100%
DQ6	100%	100%				NEG	50%	-	DQ9	100%	100%
DR15	100%	100%							DR1	100%	100%
DR16	100%	100%							DR4	100%	100%
DR51	100%	100%									
DQ8	50%	100%									



**Table 25. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by PRA - class II**

Method: Luminex - PRA											
<b>*** Serum 1325 ***</b>			<b>*** Serum 1326 ***</b>			<b>*** Serum 1327 ***</b>			<b>*** Serum 1328 ***</b>		
3 typing Labs			3 typing Labs			3 typing Labs			3 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
DQ5	67%	100%	DQ2	33%	100%	DQ7	67%	100%	DQ4	67%	100%
DQ6	67%	100%	DR7	33%	100%	DQ8	67%	100%	DQ7	67%	100%
DQ4	33%	100%	DR9	33%	100%	DQ2	33%	100%	DQ8	67%	100%
DQ8	33%	100%				DQ4	33%	100%	DQ9	67%	100%
DQ9	33%	100%				DQ6	33%	100%	DR1	67%	100%
DR15	33%	100%				DQ9	33%	100%	DR10	67%	100%
DR16	33%	100%				DR1	33%	100%	DR4	67%	100%
DR51	33%	100%				DR10	33%	100%	DQ2	33%	100%
						DR14	33%	100%	DQ6	33%	100%
						DR4	33%	100%	DR14	33%	100%
						DR7	33%	100%	DR15	33%	100%
						DR9	33%	100%			

**Table 26. Summary of the 583<sup>rd</sup> Serum Exchange (Serum #1325-1328) by Single Antigen - class II**

Method: Luminex - SAB											
*** Serum 1325 ***			*** Serum 1326 ***			*** Serum 1327 ***			*** Serum 1328 ***		
21 typing Labs			21 typing Labs			21 typing Labs			21 typing Labs		
Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion	Antigen	Consensus	Inclusion
DQ4	100%	100%	DR7	100%	100%	DQ9	100%	100%	DQ7	100%	100%
DQ5	100%	100%	DR9	95%	50%	DR7	100%	100%	DQ8	100%	100%
DQ6	100%	100%	DR53	86%	100%	DQ8	100%	83%	DQ9	100%	100%
DR15	100%	100%	DQ2	63%	100%	DQ7	100%	76%	DR1	100%	100%
DR16	100%	100%	DR52	57%	100%	DR9	95%	100%	DR10	100%	100%
DR51	100%	100%	DQA1*05	19%	100%	DR52	57%	54%	DR4	100%	100%
DQ8	100%	67%	DPA1*05	5%	100%	DR12	48%	100%	DQ4	100%	55%
DQ9	100%	67%	DQA1*04	5%	100%	DQA1*03	14%	100%	DR14	100%	43%
DQA1*01	38%	100%				DQA1*05	14%	100%	DR15	90%	40%
DQA1*04	24%	100%				DQA1*06	14%	100%	DR51	86%	57%
DQA1*03	13%	100%				DQ3	10%	100%	DQA1*03	76%	100%
DQ3	9%	100%				DP10	5%	100%	DQA1*06	33%	100%
DR11	9%	100%				DP14	5%	100%	DQ2	29%	50%
DQ1	5%	100%				DP17	5%	100%	DQA1*04	24%	100%
DQA1*02	5%	100%				DP9	5%	100%	DQA1*05	14%	100%
DR2	5%	100%				DPA1*02	5%	100%	DR13	14%	100%
						DPw1	5%	100%	DP28	10%	100%
						DPw5	5%	100%	DPw2	10%	100%
						DQA1*02	5%	100%	DQ3	10%	100%
									DP18	5%	100%
									DPw1	5%	100%
									DQA1*02	5%	100%
									DR1404	5%	100%

**Table 27. Individual laboratory results for Serum #1325 - 1328 by NIH-Standard - class I**

		**** Serum 1325 ****			**** Serum 1326 ****			**** Serum 1327 ****			**** Serum 1328 ****			
Ctr	%	POS		Other	%	POS		Other	%	POS		Other	Method	
786	NT				NT				NT		A11		STD	
											+			

STD = NIH-standard

**Table 28. Individual laboratory results for Serum #1325 - 1328 by Antiglobulin - class I**

		**** Serum 1325 ****			**** Serum 1326 ****			**** Serum 1327 ****			**** Serum 1328 ****			
Ctrl	%		Other	%		Other	%		Other	%	A11	Other	Method	
786	NT			NT			NT				+		Antiglobulin	

**Table 29. Individual laboratory results for Serum #1325 - 1328 by C1q - class I**

Ctr	**** Serum 1325 ****			**** Serum 1326 ****				**** Serum 1327 ****				**** Serum 1328 ****								Method					
	% POS		Other	% POS	A29	B44	B45	Other	% POS	B57	B58	A25	Other	% POS	A11	A25	A34	A43	A66		A26	A31	A33	Other	
786	NT				+					+					+	+	+	+	+						C1q
2400	0				+	+	+			+	+				+	+	+	+	+	+	+	+			C1q
3753	0				+	+	+			+	+	+			+	+	+	+	+	+	+	+			C1q

**Table 30. Individual laboratory results for Serum #1325 - 1328 by PRA - class I**

**** Serum 1325 ****														**** Serum 1326 ****														
Ctr	% POS	A6602	B47	B60	B61	B7	B81						Other	% POS	A26	A29	A30	A31	A33	B44	B45	B82					Other	Method
2400	29													41														LMX-PRA
3753	28	+	+	+	+	+	+							72	+	+	+	+	+	+	+	+						LMX-PRA
8058	0													0														LMX-PRA

**** Serum 1327 ****														**** Serum 1328 ****																														
Ctr	% POS	A11	A2	A25	A26	A29	A31	A32	A33	A34	A66	A68	A74	B57	B58	Other	% POS	A11	A25	A36	A1	A2	A23	A24	A26	A3	A31	A33	A34	A66	A68	A74	A80	B42	B44	B45	B46	B49	B50	B51	B62	Other	Method	
2400	82																95																										LMX-PRA	
3753	80	+	+	+	+	+	+	+	+	+	+	+	+	+	+		98	+	+	+	+	+			+	+	+	+	+	+	+	+			+	+	+	+	+	+			LMX-PRA	
8058	0																15	+	+	+			+	+											+	+	+	+	+	+	+			LMX-PRA

**Table 31. Individual laboratory results for Serum #1325 by Luminex SAB - class I**

**** Serum 1325 ****																								
Ctr	% POS	B60	B7	B61	B27	B81	B47	B13	B48	B73	B55	B67	B42	A66	A6602	B56	Cw2	B82	Cw5	B2708	B703	Other	Method	
615		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					LMX-SAB
725		+	+	+	+	+	+	+	+	+					+						+	+		LMX-SAB
774	23	+	+	+	+	+		+	+					+										LMX-SAB
786		+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+					LMX-SAB
910		+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+						LMX-SAB
2400		+	+	+	+	+	+	+	+	+	+	+	+	+			+							LMX-SAB
3224	21	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+					LMX-SAB
3753		+	+	+	+	+	+	+	+						+									LMX-SAB
3766	72	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		B8101,B2705,B8201	LMX-SAB
3808	10	+	+	+	+		+	+							+						+	+	B8101	LMX-SAB
3966	21	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+					LMX-SAB
4322		+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+					B54	LMX-SAB
5219	8	+	+	+		+	+								+						+	+	B40,B8101,B2705	LMX-SAB
5462		+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+				A*66:02	LMX-SAB
6649	19	+	+	+	+	+	+	+	+	+	+	+	+	+		+								LMX-SAB
8082		+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+						LMX-SAB
8086	9	+	+	+	+	+								+					+					LMX-SAB
8098		+	+	+	+	+	+	+	+	+	+	+	+	+							+	+	B12C,B5C,B7C,A10C	LMX-SAB
8100		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					LMX-SAB
8103		+	+	+	+	+	+					+		+	+			+				+	Cw4,B40,B8101,B2705	LMX-SAB
8112		+	+	+	+	+	+	+	+	+				+										LMX-SAB
8125		+	+	+	+	+	+	+	+	+	+	+	+	+		+	+		+				A2,Cw8	LMX-SAB
8128		+	+	+	+	+	+	+	+	+	+	+	+		+	+	+		+					LMX-SAB

**Table 32. Individual laboratory results for Serum #1326 - 1327 by Luminex SAB - class I**

Ctr	**** Serum 1326 ****														**** Serum 1327 ****														Method												
	A29	B44	B45	B76	A43	B82	A26	A31	A33	A30	A34	A25	A66	A1	Other	A2	A25	A26	A32	B57	B58	A43	A33	A34	A66	A68	A31	A11		A29	A69	A74	B63	A203	A6602	Other					
615	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Other	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	Other	LMX-SAB			
725	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A80,B42	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A6602	LMX-SAB		
774	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB		
786	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A80,B42	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A36	LMX-SAB		
910	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB		
2400	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB		
3224	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB	
3753	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB	
3766	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A6601,A6602,B8201	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A1101,A1102,A6601	LMX-SAB	
3808	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A1101,A1102,A6601	LMX-SAB	
3966	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB	
4322	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B41,B42	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B75,B76,B77	LMX-SAB	
5219	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B12	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A10,B17,A10C,A2C >	LMX-SAB	
5462	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB	
6649	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8082	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B42	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8086	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8098	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B12C,B5C,B7C,A1C >	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B5C,A1C,A10C,A2C	LMX-SAB	
8100	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8103	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B15,A6601,A6602	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	B15,A1101,A1102,A6601	LMX-SAB
8112	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8125	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8128	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB



**Table 33. Individual laboratory results for Serum #1328 by Luminex SAB - class I**

		**** Serum 1328 ****																					
Ctr	% POS	A1	A2	A25	A26	A3	A31	A33	A34	A36	A43	A68	A69	A74	A80	A11	A66	A30	A29	A6602	Other	Method	
615		+																					LMX-SAB
725		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
774	93	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
786		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A24	LMX-SAB
910		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A2403	LMX-SAB
2400		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
3224	29	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A2403	LMX-SAB
3753		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
3766	95	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A203,A1101,A1102,A6601	LMX-SAB
3808	26	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+	+	+	A203,A1101,A1102,A6601	LMX-SAB
3966	29	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A24	LMX-SAB
4322		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
5219	27	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A203,A10,A28,A1C >	LMX-SAB
5462		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
6649	28	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8082		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8086	24	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						LMX-SAB
8098		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A203,A1C,A10C,A2C	LMX-SAB
8100		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A24,A2403	LMX-SAB
8103		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A24,A2403,A1101,A1102 >	LMX-SAB
8112		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8125		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB
8128		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		LMX-SAB

**Table 34. Individual laboratory results for Serum #1325 - 1328 by C1q - class II**

Ctr	**** Serum 1325 ****									**** Serum 1326 ****				**** Serum 1327 ****				**** Serum 1328 ****						Method	
	% POS	DQ4	DQ5	DQ6	DR15	DR16	DR51	DQ8	Other	% POS			Other	% POS	DQ2	DQ8	Other	% POS	DQ7	DQ8	DQ9	DR1	DR4		Other
2400		+	+	+	+	+	+	+		0					+	+			+	+	+	+	+		C1q
3753		+	+	+	+	+	+			0									+	+	+	+	+		C1q



**Table 36. Individual laboratory results for Serum #1325 - 1326 by Luminex Single Antigen - class II**

Ctr	**** Serum 1325 ****											**** Serum 1326 ****						Method		
	% POS	DQ4	DQ5	DQ6	DR15	DR16	DR51	DQ8	DQ9	DQA1*01	DQA1*04	Other	% POS	DR7	DR9	DR63	DQ2		DR52	Other
615		+	+	+	+	+	+	+	+			DR11		+	+	+	+	+	DRB3*01:01, DRB3*03:01	LMX-SAB
774	74	+	+	+	+	+	+	+	+				26	+	+					LMX-SAB
910		+	+	+	+	+	+	+	+					+	+	+	+		DRB3*01:01, DRB3*03:01	LMX-SAB
2400		+	+	+	+	+	+	+	+					+	+	+	+	+		LMX-SAB
3224	26	+	+	+	+	+	+	+	+	+			13	+	+	+	+		DRB3*01:01, DRB3*03:01	LMX-SAB
3753		+	+	+	+	+	+	+	+					+	+	+	+	+	DRB3*01:01, DRB3*03:01	LMX-SAB
3766	85	+	+	+	+	+	+	+	+	+		DQA1*03, DQA1*01:01, DQA1*01:03, DQA1*01:02, DQA1*03:03, DQA1*03:02	65	+	+	+	+	+	DQA1*05, DQA1*05:01, DRB3*03:01, DRB3*01:01	LMX-SAB
3808	30	+	+	+	+	+	+	+	+	+	+		2	+	+					LMX-SAB
3966	29	+	+	+	+	+	+	+	+				13	+	+	+	+	+	DQA1*05	LMX-SAB
4322		+	+	+	+	+	+	+	+	+	+	DR11,DQA1*02,DQA1*03		+	+	+	+	+	DQA1*04,DQA1*05	LMX-SAB
5219	30	+	+	+	+	+	+	+	+	+	+	DR2,DQ1,DQ3	2	+	+	+				LMX-SAB
5462		+	+	+	+	+	+	+	+					+	+	+	+	+	DRB3*01:01, DRB3*03:01	LMX-SAB
6649	26	+	+	+	+	+	+	+	+				8	+	+	+		+	DPA1*05	LMX-SAB
8082		+	+	+	+	+	+	+	+	+		DQA1*03		+	+	+	+	+	DQA1*05	LMX-SAB
8086	26	+	+	+	+	+	+	+	+				1	+						LMX-SAB
8098		+	+	+	+	+	+	+	+	+	+			+	+	+				LMX-SAB
8100		+	+	+	+	+	+	+	+					+	+	+	+	+		LMX-SAB
8103		+	+	+	+	+	+	+	+	+	+	DQ3		+	+	+				LMX-SAB
8112		+	+	+	+	+	+	+	+					+	+	+				LMX-SAB
8125		+	+	+	+	+	+	+	+					+	+	+	+	+		LMX-SAB
8128		+	+	+	+	+	+	+	+					+	+	+	+	+		LMX-SAB

**Table 37. Individual laboratory results for Serum #1327 - 1328 by Luminex Single Antigen - class II**

**** Serum 1327 ****											**** Serum 1328 ****																		
Ctr	% POS	DQ9	DR7	DQ8	DQ7	DR9	DR52	DR12	Other		% POS	DQ7	DQ8	DQ9	DR1	DR10	DR4	DQ4	DR14	DR15	DR51	DQA1*03	DQA1*06	DQ2	DQA1*04	Other		Method	
615		+	+	+	+	+	+	+	DPw5,DP9,DP10,DP17, DRB3*03:01,DRB3*01:01 >			+	+	+	+	+	+	+	+	+	+	+				DR13,DRB5*02:02		LMX-SAB	
774	51	+	+	+	+	+	+				71	+	+	+	+	+	+	+	+	+	+			+				LMX-SAB	
910		+	+	+	+	+		+	DRB3*01:01, DRB3*03:01			+	+	+	+	+	+	+	+	+	+	+						LMX-SAB	
2400		+	+	+	+	+						+	+	+	+	+	+	+	+	+	+	+						LMX-SAB	
3224	18	+	+	+	+	+		+	DRB3*01:01, DRB3*03:01		33	+	+	+	+	+	+	+	+	+	+	+				DRB5*02:02		LMX-SAB	
3753		+	+	+	+	+	+		DRB3*01:01, DRB3*03:01			+	+	+	+	+	+	+	+	+	+	+				DRB1*14:02,DRB5*02:02		LMX-SAB	
3766	64	+	+	+	+	+			DQA1*03,DQA1*05,DQA1*06, DQA1*05:05, DQA1*05:03, DQA1*03:02, DQA1*06:01		89	+	+	+	+	+	+	+	+	+	+	+	+			DQA1*05, DQA1*05:05, DQA1*03:01, DQA1*03:03, DRB5*02:02		LMX-SAB	
3808	13	+	+	+	+	+					29	+	+	+	+	+	+	+	+	+	+	+	+		+			LMX-SAB	
3966	14	+	+	+	+	+					33	+	+	+	+	+	+	+	+	+	+	+		+				LMX-SAB	
4322		+	+	+	+	+	+	+	DPw1,DQA1*03,DQA1*05,DQA1*06			+	+	+	+	+	+	+	+	+	+	+	+		+	DR13,DPw1,DQA1*02,DQA1*05		LMX-SAB	
5219	8	+	+	+	+	+			DQ3		34	+	+	+	+	+	+	+	+	+	+	+	+		+	DQ3,DPw2,DP18,DP28,DRB5*02:02		LMX-SAB	
5462		+	+	+	+	+	+		DRB3*01:01, DRB3*03:01			+	+	+	+	+	+	+	+	+	+	+				DRB5*02:02		LMX-SAB	
6649	17	+	+	+	+	+	+	+			32	+	+	+	+	+	+	+	+	+	+	+						LMX-SAB	
8082		+	+	+	+	+	+	+	DQA1*03,DQA1*05,DQA1*06			+	+	+	+	+	+	+	+	+	+	+	+			DR13,DQA1*05		LMX-SAB	
8086	19	+	+	+	+	+	+	+			22	+	+	+	+	+	+	+	+	+	+	+						LMX-SAB	
8098		+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	DPw2,DP28		LMX-SAB
8100		+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+		+				LMX-SAB	
8103		+	+	+	+	+	+		DQ3			+	+	+	+	+	+	+	+	+	+	+	+		+	DR1404,DQ3		LMX-SAB	
8112		+	+	+	+							+	+	+	+	+	+	+	+	+	+	+		+				LMX-SAB	
8125		+	+	+	+	+	+	+				+	+	+	+	+	+	+	+	+	+	+		+				LMX-SAB	
8128		+	+	+	+	+						+	+	+	+	+	+	+	+	+	+	+						LMX-SAB	