

# Report of the 30<sup>th</sup> Single Antigen, Flow and Virtual Crossmatch Exchange

December 15, 2023

Cells	175-176
Serum	177-180

In this study, virtual donor V2 and serum 173 (patient 1) from Exchange 29 (June 2023) are re-examined as cell 175 and serum 177. A comparison of virtual crossmatch predictions (VXM) (V2 vs. serum 173) against the physical flow crossmatch (FXM) (**cell 175** vs. **serum 177**) are summarized in **Part 1** of this report. **Part 2** examines the Luminex single antigen (SAB)

data for serum sample nos. **177 - 180**. **Part 3** summarizes the FXM results for **cells 175 and 176** against the 4 sera. Finally, in **Part 4**, the VXM predictions for 3 potential donors (V1 - V3) against serum 179 and serum 180 are evaluated.

## Part 1

### Physical Flow Cytometric Crossmatch vs. Virtual Crossmatch

Direct comparisons of VXM predictions with physical FXM outcomes are shown in Tables 1a – 1c. Seventeen labs submitted virtual crossmatch predictions in Exchange 29. Among them, 11 labs reported back physical FXM results in Exchange 30 (Table 1a). For donor V2 vs. serum 173, each

of the 11 labs predicted the physical T/B-cell FXM to be positive. DSA of > 14000 MFI were reported at the time. In this present study, all 11 labs reported the physical T/B-cell FXM for cell 175 vs. serum 177 as positive in agreement with predictions (Table 1b).

**Table 1a. Summary of Virtual XM predictions vs. Physical Flow XM results - Direct comparison**

Exchange 029					Exchange 030				
Virtual Crossmatch - Donor V2 vs. Serum 173					Physical Flow Crossmatch - Cell 175 vs. Serum 177				
Donor	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Cell	Serum no.	#Labs	T-cell Results	B-cell Results
V2	173	11	POS (11)	POS (11)	175	177	11	POS (11)	POS (11)

**Table 1b. Direct comparison of Physical Flow Crossmatch results vs. Virtual Crossmatch results**

T-cell Virtual XM (Exchange 29)				B-cell Virtual XM (Exchange 29)				
		+	-			+	-	∅
Physical T-cell FXM (Exchange 30)	+	11				11		
	-							
	∅							
Physical B-cell FXM (Exchange 30)	+							
	-							
	∅							

+/- = positive/negative

∅ = borderline/not typed

n = number of labs

The reporting of DSA and DSA strength was also consistent across the 2 studies. In Exchange 29, multiple DSA (B13, A1, B52, DR51, DR53) were reported against donor V2. Respective strength of each were 14542, 8464,

5392, 1883, and 2156 MFI. In Exchange 30, anti-B13 (15462), -A1 (10180), -B52 (5553), -DR51 (2230), and -DR53 (2032) reactivity was reported against the donor (cell 175) once again.

**Table 1c. Individual Physical Flow Crossmatch results vs. Virtual Crossmatch predictions - Direct Comparison**

Cell #175 HLA genotype: A\*01:01-01-A\*02:01-01-B\*13:02:01-B\*52:01:01-C\*06:02:01-C\*12:02:02-DRB1\*07:01:01-DRB1\*15:02:01G-B4\*01:03:01-B5\*01:02:01-DQA1\*01:03:01-DQA1\*02:01:01-DQB1\*02:01:01G-DQB1\*06:01-DPA1\*01:03:01-DPA1\*02:01:01DPB1\*04:01:01G-DBP1\*17:01:01

Exchange 029					Exchange 030				
Virtual Crossmatch - Donor V2 vs. Serum 173 (Patient 1)					Physical Flow Crossmatch - Cell 175 vs. Serum 177				
Ctr	Virtual T-cell Prediction	Class I DSA(MFI)	Virtual B-cell Prediction	Class II DSA(MFI)	Ctr	T-Cell RESULT	Class I DSA(MFI)	B-Cell RESULT	Class II DSA(MFI)
230	Positive	B13 (16438) B52 (6203) A1 (11971)	Positive	DR51 (2529) DR53 (2294)	230	Positive	A1(19059) B13(25536) B52(9224 )	Positive	DR53(5100) DR51(4706)
792	Positive	B13 (12861) B52 (4448) A1 (8464)	Positive	DR51 (1663)	792	Positive	B13(14284), A1(9550), B52(4963)	Positive	DR51(2105), DR53(1657)
1426	Positive	B13 (13092) B52 (5058) A1 (5953)	Positive	DR53 (1540)	1426	Positive	A*01:01(5886), B*13:02(11480), B*52:01(5111)	Positive	DRB4*01:03(1317)
3224	Positive	B13 (14366) B52 (5392) A1 (10104) Bw4 (20092)	Positive	DR15 (696) DR51 (1745) DR53 (2018)	3224	Positive		Positive	
3753	Positive	B13 (14717) B52 (4490) A1 (7435)	Positive	DR51 (1406) DR53 (1332)	3753	Positive	B13(17688), A1(11040), B52(3529)	Positive	DR51(1920), DR53(1846)
3808	Positive	B13 (3905) B52 (1455) A1 (1976)	Positive	DR51 (884)	3808	Positive	A*01:01(2565), B*13:02(4244), B*52:01(1352)	Positive	DRB5*01:01(1227), no DRB5*01:02 bead on IM or OLI)
3966	Positive	B13 (14627) B52 (4812) A1 (10589)	Positive	DR51 (1543) DR53 (2263)	3966	Positive		Positive	
8001	Positive	B13 (17110) B52 (5392) A1 (10193)	Positive	DR15 (632) DR53 (1810)	8001	Positive	A*01:01(11648) B*13:02(18676) B*52:01(6170) Bw4(26075)	Positive	DRB1*15:02(668) DRB4*01:03(2048) DR51(2407)
8050	Positive	B13 (15159) B52 (5362) A1 (4636)	Positive	DR51 (2203) DR53 (2298)	8050	Positive	A1(5361) B13(16183) B52(6207)	Positive	DR15(1171) DR51(3587) DR53(2865)
8083	Positive	B13 (17655) B52 (7012) A1 (13355)	Positive	DR15 (1267) DR53 (3083)	8083	Positive	B*13:02(19137), B*52:01(7568),	Positive	
8111	Positive	B13 (17000) B52 (6700) A1 (6700)	Positive	DR15 (800) DR51 (2700)	8111	Positive	A1(13900), B13(18000), B52(7600)	Positive	DR15(1300), DR51(3000), DR53(3000)

## Part 2

Class I and class II Luminex single antigen results for serum samples 177 - 180 are summarized in Tables 12 - 15. Individual listing of results for

each participating laboratory are listed in Tables 16 – 23. Pretreatment and cutoff values are listed in Table 30.

### Antibody Identification

**Serum 177:** This sample was previously examined as serum 173 in Exchange 29. As shown below, the reporting of antibodies and antibody strength was consistent across the 2 studies.

Exchange 29		Exchange 30		Exchange 29		Exchange 30	
Class I		Class I		Class II		Class II	
*** Serum 173 ***		*** Serum 177 ***		*** Serum 173 ***		*** Serum 177 ***	
B45	23088	B45	24316	DR4	5622	DR4	6619
B44	20947	B44	22555	DQ9	3631	DQ9	3860
B76	21409	B76	22549	<b>DQ7</b>	3649	DQ7	3634
B82	15797	B82	17347	DQ8	3603	DQ8	3845
B49	15250	B49	16197	<b>DR51</b>	1883	<b>DR51</b>	2230
B13	14542	<b>B13</b>	15462	<b>DR53</b>	2156	<b>DR53</b>	2032
B41	14636	B41	14588	DQA1*03	3655	DQA1*03	2593
B50	14810	B50	14398	DR15	822	<b>DR15</b>	1050
B60	14175	B60	13824	DR16	870	<b>DR16</b>	908
B47	12971	B47	13602	DQ4	1490	DQ4	1490
B61	12691	B61	13336				
B62	10391	B62	10401				
<b>B72</b>	10353	B72	10371				
<b>B53</b>	9556	<b>B53</b>	10272				
A1	8464	<b>A1</b>	10180				
B77	9241	B77	9893				
B35	8771	B35	9464				
B38	8031	B38	8981				
B75	8032	B75	8277				
B51	7769	B51	7904				

As mentioned earlier in this report, multiple DSA (B13, A1, B52, DR51, DR53) were reported against cell 175. The strength of the highest DSA (B13) was 15462 MFI. Against cell 176, B49 (16197), B53 (10272), and A23 (5110) were the reported DSA. Weak anti-DR51 (2230) reactivity was also reported by a few labs (n = 9) against cell 176.

\*(median MFI by SAB)

#### Genotypes of cells provided by UCLA

**Cell 175 (Hispanic):** A\*01:01:01-A\*02:01:01-B\*13:02:01-B\*52:01:01-C\*06:02:01-C\*12:02:02-DRB1\*07:01:01-DRB1\*15:02:01G-B4\*01:03:01-B5\*01:02:01-DQA1\*01:03:01-DQA1\*02:01:01-DQB1\*02:01:01G-DQB1\*06:01-DPA1\*01:03:01-DPA1\*02:01:01-DPB1\*04:01:01G-DPB1\*17:01:01

**Serum 178:** For this sample, strong anti-A11 (13758) reactivity, along with reactivity to a number of DR and DQ specificities, including DR53 (27380), DR4 (25999), DQ9 (22661), DQ8 (22049), DR9 (12267), DR1 (11491), and DR7 (9334), were reported by 100% of labs.

Multiple class II DSA (DR53, DR7, DR15, DR51, DQA1\*02, DQ6) were reported against cell 175, with the strength of the highest DSA at 27380 MFI. Against cell 176, anti-DR11 (4389), -DR16 (2851), and -DR51 (2049) reactivity was reported. No class I DSA were reported against either cell.

**Serum 179:** Strong anti-B73 (20185), -Cw7 (19496), and -DQ2 (17153) reactivity was reported for this sample. Each were reported by 100% of labs. In addition, labs reported reactivity to number of 1C and 10C specificities, including A11 (16368), A1 (16022), A25 (14223), A36 (13929), A80 (13773), and A34 (13158).

Against cell 175, anti-A1 (16022), -Cw6 (8388), and -DQ2 (17153) reactivity was reported. Weak anti-Cw12 (6312) reactivity was also reported by 2 labs against cell 175. Interestingly, the reporting of DSA against cell 176 was mixed. Seven labs reported Cw7 (19496) as a DSA, while the remaining labs did not assign any DSA against the cell.

**Serum 180:** Strong class I and II reactivity was detected in this sample. Anti-A23 (14658), -A24 (13154), and -B35 (2549) reactivity was reported by 100% of lab. In addition, 100% of labs reported reactivity to a number of DQ and DP specificities, including DQ7 (14799), DQ8 (13622), DQ9 (13119), DP3 (7065), DP6 (6934), and DP9 (6908).

Against cell 175, a single DSA (DP17) was reported, with MFI = 6459. Two labs also reported DQ2 (2117) as a DSA. Multiple DSA (A23, B53, DR11) were reported against cell 176, with respective MFI = 14658, 1775, 1451.

**Cell 176 (Black):** A\*03:01:01-A\*23:01:01-B\*49:01:01-B\*53:01:01-C\*04:01:01-C\*07:01:02-DRB1\*11:01:02-DRB1\*16:02:01G-B3\*02:02:01-B5\*02:02:01-DQA1\*01:02:01-DQA1\*01:02:02-DQB1\*05:02:02:01G-DQB1\*06:02:01G-DPA1\*01:03-DPA1\*03:01-DPB1\*04:01:01G-DPB1\*105:01:01

## Conclusion:

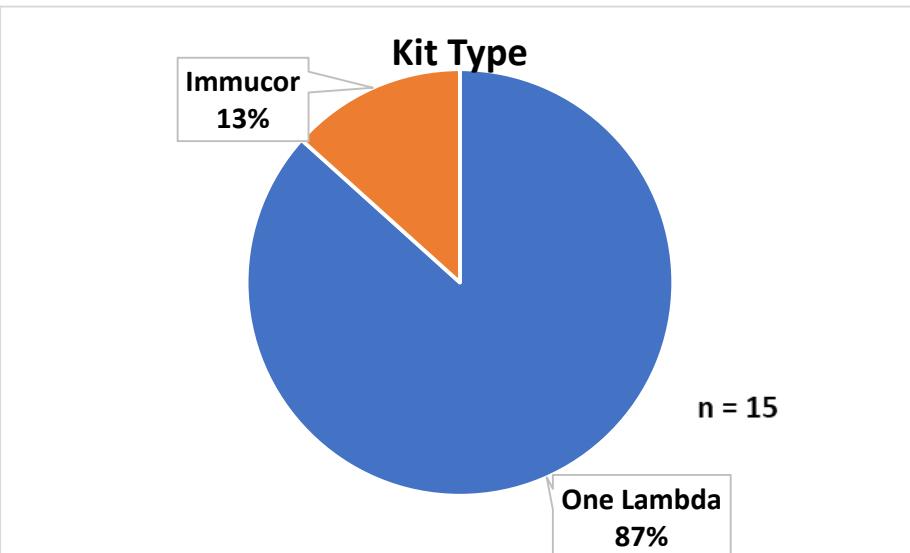
For all 4 serum samples, > 90% agreement was achieved in the reporting of class I and II antibodies. In each case, the median of the highest antibody reported was > 6000 MFI.

A total of 16 labs submitted single antigen data for samples 177 - 180. Among them, 15 labs shared the kit type used for testing (Figure 1). Thirteen labs (87%) used the One Lambda LABScreen Single Antigen kit, with 1 lab specifying the LABScreen ExPlex kit. The remaining 2 labs (13%),

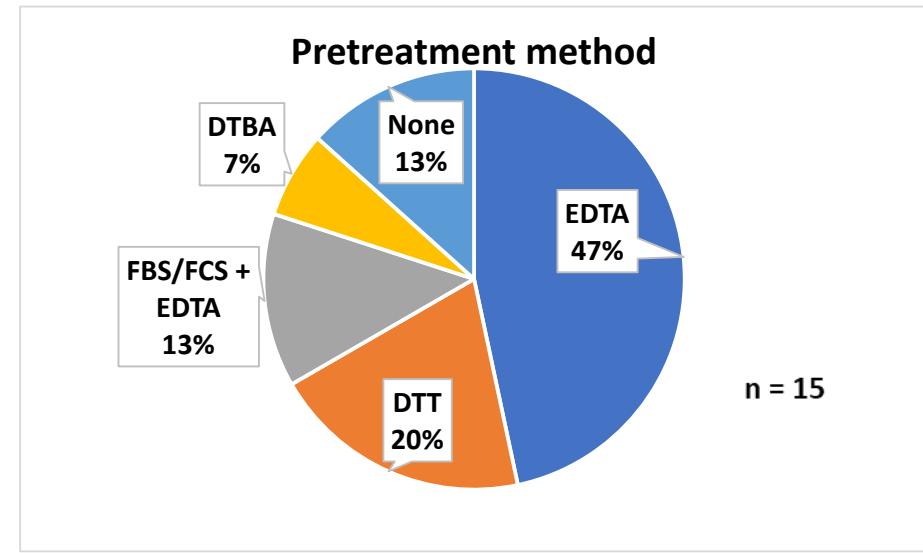
used kits from Immucor.

For serum pretreatment, the number of labs pretreating with EDTA increased from 5 in the previous study to 7 labs (47%) in this present study (Figure 2). Three labs treated with DTT, 2 used a combination of FBS/FCS with EDTA, and 1 treated with DTBA. The remaining 2 labs did not treat the sera prior to testing.

**Figure 1. Kit Information breakdown**



**Figure 2. Sera pretreatment breakdown**



## Part 3

Flow cytometric crossmatch results for cell 175 and cell 176 against serum samples 177 - 180 are summarized in Table 2. Individual results for

each laboratory, along with reported class I and class II DSA for each serum sample, are listed in tables 4 - 11.

### Flow Cytometric Crossmatch

**Cell 175.** For this cell,  $\geq 80\%$  agreement was achieved for 7 out of 8 T/B FXM. In the case of the positive FXM, class I and/or class II DSA of  $> 15000$  MFI were present. For cell 175 against serum 180, however, the strength of the DSA was  $< 6500$  MFI, resulting in the consensus to fall below 80%.

**Cell 176.** For this cell,  $\geq 80\%$  agreement was achieved for 6 out of 8 T/B FXM. Among them, 4 FXM were reported as positive in the presence of class I DSA of  $> 14000$  MFI. For cell 176 against serum 179, consensus for the T/B-cell FXM was  $< 80\%$  in the presence of a single C-locus DSA.

**Table 2. Summary of Flow crossmatch results for Cell #175- #176 vs. Serum #177 - #180**

Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results	Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results
175	177	14	<b>POS(14)</b>	<b>POS(13)</b> NEG(1)	176	177	14	<b>POS(14)</b>	<b>POS(13)</b> NT(1)
175	178	14	<b>NEG(12)</b> <i>POS(1)</i> <i>Borderline(1)</i>	<b>POS(14)</b>		178	14	<b>NEG(13)</b> <i>Borderline(1)</i>	<b>POS(14)</b>
175	179	14	<b>POS(13)</b> NEG(1)	<b>POS(12)</b> NEG(2)		179	14	<b>POS(7)</b> NEG(5) <i>Borderline(2)</i>	<b>NEG(10)</b> POS(2) <i>Borderline(2)</i>
175	180	14	<b>NEG(14)</b>	<b>POS(11)</b> NEG(2) <i>Borderline(1)</i>		180	14	<b>POS(14)</b>	<b>POS(13)</b> <i>Borderline(1)</i>
<b>consensus &lt; 80%</b>									

### Conclusion:

Greater than 80% agreement was achieved for 13 out of 16 T/B-cell FXM. In the case of all but 1 of the positive FXM, the strength of the highest DSA was  $> 14000$  MFI.

For cell 175 vs. serum 180, the majority of labs ( $n = 11$ ) reported the B-cell FXM as positive, with 1 lab noting the positivity as moderate. One lab reported it as borderline and 2 reported it as negative. Only a single DSA (DP17, 6479 MFI) was reported by labs, showing the sensitivity of the FXM

can be highly variable in the presence of low expression DSA.

For cell 176, 9 labs reported anti-Cw7 (19496) reactivity against serum 179. The remaining labs did not assign a DSA. Interestingly, despite the strength of the antibody, only 7 labs reported the T-cell FXM as positive. B-cell FXM results were mixed as well, with the majority of labs ( $n = 10$ ) reporting it as negative. Once again, variability in FXM sensitivity was observed in the presence of low expression DSA.

## Part 4

Virtual crossmatch predictions for donor V1 - V3 against serum samples 179 and 180 are summarized in Table 3 and individual laboratory pre-

dictions are listed in Tables 24 - 29. Fictional donor histories precede each patient-donor summary.

### Virtual Crossmatch Paper Challenge

For virtual **T-cell predictions** of the expected T-cell FXM,  $\geq 80\%$  agreement was achieved for all 6 challenges. In the case of the positive predictions, class I DSA of  $> 8000$  MFI were present.

For virtual **B-cell predictions** of the expected B-cell FXM,  $\geq 80\%$  agreement was also achieved for all 6 challenges. Each were reported as positive in the presence of class I or II DSA of  $> 8000$  MFI.

**Table 3. Summary of Virtual Crossmatch Predictions (Serum #179 - #180 vs. Donors V1 - V3)**

Donor no.	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Predicted Risk Assessment	Donor no.	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Predicted Risk Assessment
V1	179	17	POS(17)	POS(15) NEG(2)	Unacceptable(15) Acceptable(2)	V2	179	17	POS(17)	POS(16) Borderline(1)	Unacceptable(17)
V1	180	17	NEG(17)	POS(16) NEG(1)	Unacceptable(16) Acceptable(1)	V2	180	17	POS(17)	POS(16) NEG(1)	Unacceptable(17)
Donor no.	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Predicted Risk Assessment						
V3	179	17	POS(17)	POS(17)	Unacceptable(17)						
V3	180	17	POS(17)	POS(16) Borderline(1)	Unacceptable(17)						

# DSA Identification

## Patient 1 (Serum 179)

**Patient's fictional case history:** This individual is a 48-year-old male being evaluated for his first transplant. The HLA type of the patient was A\*02:01-A\*33:01-B\*14:02-B\*40:01-C\*02:02-C\*03:04-DRB1\*01:02-DQA1\*01:01-DQB1\*05:01-DPA1\*01:03-DPA1\*02:01-DPB1\*01:01-DPB1\*03:01.

Anti-A11 (16368), -A66 (12164), and -Cw17 (7464) reactivity was reported against **donor V1**. Fifteen labs noted there were no class II DSA present. For virtual T/B-cell predictions of the expected FXM, all 17 labs predict the expected T-cell FXM to be positive, while 15 labs predict the expected B-cell FXM to be positive due to class I DSA.

Multiple DSA (A1, Cw17, DQ2) were reported against **donor V2**. Respective MFI's for each were 16022, 7464, and 17153. A number of labs ( $n = 15$ ) also reported Cw6 (8388) as a DSA. All 17 labs predict the expected T-cell FXM to be positive and 16 labs predict the expected B-cell FXM to be positive in the presence of strong DSA.

Against **donor V3**, anti-A11 (16368) reactivity was reported by 100% of labs. In addition, 13 labs assigned Cw16 (2723) as a DSA. Anti-DQA1\*05 (19368) reactivity was also reported against the donor by 3 labs. Among them, 1 noted DQA1\*05:01 could not be ruled out due to DQB\* overlap. Each of the 17 labs predict the expected T/B-cell FXM to be positive.

### Virtual Donors – HLA genotype

**Donor 1 (V1):** A\*11:01:01-A\*66:01:01-B\*41:02:01-B\*44:02:01-C\*05:01:01-C\*17:03:01-DRB1\*08:01:01-DRB1\*13:03:01-DRB3\*01:01:02-DQA1\*04:02-DQA1\*05:05-DQB1\*03:01:01G-DQB1\*04:02:01-DPA1\*01:03-DPB1\*04:01:01G-DPB1\*06:01:01G

**Donor 2 (V2):** A\*01:01:01-A\*23:01:01-B\*42:01:01-B\*50:01:01-C\*06:02:01-C\*17:01:01-DRB1\*03:02:01-DRB1\*07:01:01-DRB3\*01:01:02-DRB4\*01:03:01-DQA1\*02:01:01-DQA1\*04:01:01-DQB1\*02:02, DQB1\*04:02:01-DPA1\*01:03:01-DPA1\*02:01:01-DPB1\*01:01:02-DPB1\*04:02:01

**Donor 3 (V3):** A\*11:01-A\*23:01:01G-B\*15:01-B\*44:03-C\*01:02:01G-C\*16:01-DRB1\*04:04-DRB1\*11:01-DRB3\*02:02:01G-DRB4\*01:01:01G-DQA1\*03:01-DQA1\*05:01:01G-DQB1\*03:01-DQB1\*03:02-DPA1\*02:01:01-DPA1\*02:02:02-DPB1\*04:01

## Patient 2 (Serum 180)

**Patient's fictional case history:** This individual is a 32-year-old female being evaluated for her second transplant. The HLA type of the first transplant was A\*23:01-A\*11:01-B\*18:01-B\*15:01-C\*04:01-C\*05:01-DRB1\*15:01-DRB5\*01:01-DQA1\*01:02-DQB1\*06:02-DPA1\*01:03-DBP1\*04:01-DBP1\*04:02. The patient's HLA type was A\*01:01-A\*11:01-B\*18:01-B\*15:01-C\*04:01-C\*12:03-DRB1\*15:01-DRB1\*15:02-DRB5\*01:01-DRB5\*01:02-DQA1\*01:02-DQB1\*05:02-DQB1\*06:02-DPA1\*01:03-DBP1\*04:01.

Strong anti-DQ7 (14479) and -DP6 (6934) reactivity was reported against **donor V1**. In addition, a few labs (n = 7) also reported DQA1\*05 (2806) as a DSA. Sixteen labs noted there were no class I DSA present against the donor. In the absence of class I DSA, all 17 labs predict the T-cell FXM to be negative. For virtual B-cell predictions, 16 labs predict the expected B-cell FXM to be positive.

Anti-A23 (14658) reactivity was reported against **donor V2** by  $\geq 90\%$  of labs. The reporting of class II DSA was, however, mixed. Five labs noted there were no class II DSA present, while 11 labs reported weak anti-DP4 (DP402, 1558 MFI) reactivity against the donor. In the presence of strong class I DSA, 17 labs predict the expected T-cell FXM to be positive. For virtual B-cell predictions, 16 labs predict the expected B-cell FXM to be positive, with several labs noting the positivity is due to class I DSA.

Multiple DSA (A23, DQ7, DQ8) were reported against **donor V3**. Respective MFI's for each were 14658, 14799, and 13622. In addition, a number of labs also assigned DR11 (1451) and DQA1\*05 (2806) as DSA. All 17 labs predict the expected T-cell FXM to be positive and 16 labs predict the expected B-cell FXM to be positive in the presence of class I/II DSA.

## Conclusion

For **serum 179** against donors V1 - V3, 100% of labs predict the expected T-cell FXM to be positive. In each case, class I DSA of  $> 16000$  MFI were present. Several discrepancies were observed for B-cell predictions. For serum 179 vs. V1, 15 labs (88%) predict the B-cell FXM to be positive due to class I DSA, while 2 labs predict it to be negative. Among the 2 labs, 1 lab noted the absence of class II DSA and the other lab noted low MFI.

For **serum 174**,  $\geq 80\%$  agreement was achieved for T/B-cell predictions against all 3 donors. In the case of the positive predictions, DSA of  $> 14000$  MFI were present. One lab accounted for the discrepancies observed in B-cell predictions, noting low MFI for predicting the expected B-cell FXM to be negative against donors V1 - V2 and borderline against donor V3.

**NEXT MAILING DATE: April 17, 2024**

*Arlene Locke, David Gjertson, Qiuheheng Zhang, and Elaine F. Reed*

## **Flow Cytometric Crossmatch**

Cell #175 HLA genotype: A\*01:01:01-A\*02:01:01-B\*13:02:01-B\*52:01:01-C\*06:02:01-C\*12:02:02-DRB1\*07:01:01-DRB1\*15:02:01G-B4\*01:03:01-B5\*01:02:01-DQA1\*01:03:01-DQA1\*02:01:01-DQB1\*02:01:01G-DQB1\*06:01-DPA1\*01:03:01-DPA1\*02:01:01-DPB1\*04:01:01G-DPB1\*17:01:01

**Table 4. Individual Flow crossmatch results and DSA reported for Cell #175 vs. Serum #177**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	177	5.2	25.9			Positive	A1(19059) B13(25536) B52(9224 )	4.5	25.4			Positive	DR15(2173) DR53(5100) DR51(4706) DQA1*02(4057)	4	2.4	YES
615	177	367	240			Positive	B*13:02(11877) A*01:01(9039) B*52:01(4955)	319	301			Strong Positive	DRB1*15:01(782) DRB4*01:03(2031) DRB5*01(2325)	279	246	YES
792	177	57	265			Positive	B13(14284), A1(9550), B52(4963)	107	264			Positive	DR51(2105), DR53(1657)	242	275	YES
1426	177	63	349			Positive	A*01:01(5886), B*13:02(11480), B*52:01(5111)	83	359.5			Positive	DRB4*01:03(1317)	269	279.5	YES
3224	177	70	281			Positive		140	302			Positive		217	180	YES
3753	177	50	290			Positive	B13(17688), A1(11040), B52(3529)	100	249			Positive	DR51(1920), DR53(1846)	262	364	NO
3808	177	320	342			Positive	A*01:01(2565), B*13:02(4244), B*52:01(1352)	413	264			Positive	DRB5*01:01(1227), no DRB5*01:02 bead on IM or OLI)	251	301	YES
3966	177	20	297			Positive		50	294			Positive		146	212	NO
5214	177	19	97		41526	Positive	A1(14841); B13(18715); B52(8921)	28	100		59079	Positive	DR51(2597)	251	253	YES
8001	177	50	343			Positive	A*01:01(11648) B*13:02(18676) B*52:01(6170) Bw4(26075)	100	273			Positive	DRB1*15:02(668) DRB4*01:03(2048) DR51(2407)	230	372	YES
8050	177	50	315			Positive	A1(5361) B13(16183) B52(6207)	120	271			Positive	DR15(1171) DR51(3587) DR53(2865)	62	132	YES
8083	177	74	434			Positive	A*01:01(13400), B*13:02(19137), B*52:01(7568),	108	359			Positive				YES
8103	177	671	720	1.2	354	Positive	A*01:01(4183), B*13:02(7603), B*52:01(2633)	2043	1321	1.7	1878.5	Negative		354	1878.5	NO
8111	177	76	2204			Positive	A1(13900), B13(18000), B52(7600)	114	3494			Positive	DR15(1300), DR51(3000), DR53(3000)	247	294	YES

**Table 5. Individual Flow crossmatch results and DSA reported for Cell #175 vs. Serum #178**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	178	5.2	7			Negative	No Class I DSA	4.5	33.7			Positive	DR7(15226) DR15(5351) DR53(33426) DR51(4566) DQ2(6209) DPB1*04(7422)	4	2.4	YES
615	178	367	-85			Negative	A*01:01(641)	319	308			Strong Positive	DRB1*07(8110) DRB1*15(2265) DQA1*02(3213) DPB1*04:01(2470) DPA1*01(2587) DRB4*01(22369)	279	246	YES
792	178	57	-3			Negative	No Class I DSA	107	329			Positive	DR53(27434), DR7(9000), DP4(2386), DR51(2067)	242	275	YES
1426	178	63	-17			Negative	No Class I DSA	83	363.5			Positive	DPB1*04:01(1012), DRB4*01:03(26113), DRB1*07:01(5435) DPA1*01 DSA present	269	279.5	YES
3224	178	70				Negative		140	303			Positive		217	180	YES
3753	178	50	17			Negative	No Class I DSA	100	233			Positive	DR53(29484), DR7(6639), DR51(1159), DR15(1529), DQ6(1786), DQA1*02(1687)	262	364	NO
3808	178	320	-101			Negative	No Class I DSA	413	258			Positive	DRB1*07:01(8962), DRB1*15:02(1216), DRB5*01:01(2450 on OLI, neg on IM), no DRB5*01:02 bead	251	301	YES
3966	178	20	14			Negative		50	253			Positive		146	212	NO
5214	178	19	3		154	Negative	No Class I DSA	28	103		65926	Positive	DR15(2530) DR7(13179) DR51(2156) DR53(23743) DQA02(2039) DPB04:01(2611) DPA01(2611)	251	253	YES
8001	178	50	-5			Negative	A*01:01(738)	100	287			Positive	DRB1*07:01(8042) DRB4*01:03(30409) DPB1*04:01(2275) DPA1*01:03(2394) DQA1*02:01(18007)	230	372	YES

**Table 5. Individual Flow crossmatch results and DSA reported for Cell #175 vs. Serum #178 - cont.**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
8050	178	50	0			Negative	No Class I DSA	120	276			Positive	DR7(10993) DR15(2578) DR51(1221) DR53(31251) DQA1*02(1434) DPA1*01(1988) DP4(2710)	62	132	YES
8083	178	74	210			Positive	A*01:01(1317)	108	371			Positive	DRB1*07:01(10916), DRB1*15:02(2365), DR53(32259)			YES
8103	178	671	399	1.2	354	Borderline	No Class I DSA	2043	3586	1.7	1878.5	Positive	DRB1*11:01(2175), DEB1*16:02(1014), DR51(875)	354	1878.5	NO
8111	178	76	60			Negative	No Class I DSA	114	3955			Positive	DR7(12900), DR15(4800), DR51(3600), DR53(29000), DQ2(2000), DP4(3900)	247	294	YES

**Table 6. Individual Flow crossmatch results and DSA reported for Cell #175 vs. Serum #179**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	179	5.2	7.9			Positive	A1(12208) Cw6(16313) Cw12(4888)	4.5	7.2			Positive	DQ2(17997)	4	2.4	YES
615	179	367	150			Positive	A*01:01(13971) C*06:02(7373)	319	192			Moderate Positive	DQB1*02:01(17294)	279	246	YES
792	179	57	238			Positive	A1(16557), Cw6(8735)	107	259			Positive	DQ2(110220)	242	275	YES
1426	179	63	239			Positive	A*01:01(16232), C*06:02(9105)	83	234.5			Positive	DQA1*02:01(9588 MFI), DQB1*02:01(10139 MFI)	269	279.5	YES
3224	179	70	220			Positive		140	211			Positive		217	180	YES
3753	179	50	210			Positive	A1(17403), Cw6(8313)	100	159			Positive	DQ2(13813)	262	364	NO
3808	179	320	246			Positive	A*01:01(4346), C806:02(2498)	413	161			Positive	DQB1*02:01(10557)	251	301	YES
3966	179	20	10			Negative		50	0			Negative		146	212	NO
5214	179	19	73		16472	Positive	A1(21265) C6(12777) C12(1247 MFI)	28	67		16941	Positive	DQ2(12960)	251	253	YES
8001	179	50	285			Positive	A*01:01(16144) C*06:02(8039)	100	180			Positive	DQB1*02:01(22326)	230	372	YES
8050	179	50	235			Positive	A1(18668) Cw6(10956)	120	141			Positive	DQ2(19688)	62	132	YES
8083	179	74	184			Positive	A*01:01(21403), C*06:02(12473),	108	120			Positive	DQB1*02:01(27356)			YES
8103	179	671	464.5	1.2	354	Positive	A*01:01(7237), C*06:02(3899)	2043	1171.5	1.7	1878.5	Negative		354	1878.5	NO
8111	179	76	739			Positive	A1(17000), Cw6(8700)	114	742			Positive	DQ2(16000)	247	294	YES

**Table 7. Individual Flow crossmatch results and DSA reported for Cell #175 vs. Serum #180**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	180	5.2	3.5			Negative	No Class I DSA	4.5	9.62			Positive	DQ2(1802) DPB1*17(13400)	4	2.4	YES
615	180	367	-67			Negative	No Class I DSA	319	158			Moderate Positive	DQB1*02:01(2266), DPB1*17:01(6754)	279	246	YES
792	180	57	18			Negative	No Class I DSA	107	198			Positive	DP17(5772)	242	275	YES
1426	180	63	16			Negative	No Class I DSA	83	250.5			Positive	DPB1*17:01(6060)	269	279.5	YES
3224	180	70				Negative		140	158			Positive		217	180	YES
3753	180	50	43			Negative	No Class I DSA	100	201			Positive	DP17(6421)	262	364	NO
3808	180	320	-59			Negative	No Class I DSA	413	92			Positive	DPB1*17:01(4192)	251	301	YES
3966	180	20	0			Negative		50	9			Negative		146	212	NO
5214	180	19	11		645	Negative	No Class I DSA	28	68		17608	Positive	DP17(6848) DPB04:02(1457)	251	253	YES
8001	180	50	39			Negative	No Class I DSA	100	157			Positive	DPB1*17:01(6497)	230	372	YES
8050	180	50	32			Negative	No Class I DSA	120	152			Positive	DP17(8511)	62	132	YES
8083	180	74	28			Negative	No Class I DSA	108	100			Borderline	DPB1*17:01(9209)			YES
8103	180	671	313	1.2	354	Negative	No Class I DSA	2043	1991	1.7	1878.5	Negative	No class II DSA	354	1878.5	NO
8111	180	76	48			Negative	No Class I DSA	114	1215			Positive	DP17(8000)	247	294	YES

Cell #176 HLA genotype: A\*03:01:01-A\*23:01:01-B\*49:01:01-B\*53:01:01-C\*04:01:01-C\*07:01:02-DRB1\*11:01:02-DRB1\*16:02:01G-B3\*02:02:01-B5\*02:02:01-DQA1\*01:02:01-DQA1\*01:02:02-DQB1\*05:02:01G-DQB1\*06:02:01G-DPA1\*01:03- DPA1\*03:01-DPB1\*04:01:01G-DPB1\*105:01:01

**Table 8. Individual Flow crossmatch results and DSA reported for Cell #176 vs. Serum #177**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	177	5.5	26.8			Positive	A23(6427) B49(27388) B53(18029) Cw7(5492)	5.5	30.1			Positive	DR16(2268) DR51	4	3	YES
615	177	297	340			Strong Positive	B*49:01(13408) B*53:01(8884) A*23:01(4940)	288	371			Strong Positive	DRB5*02:02(1880) DRB1*16:02(657)	209	215	YES
792	177	57	264			Positive	B49,(14672, B53(9090), A23(5087)	107	278			Positive	DR51(2105)	256	323	YES
1426	177	63	365			Positive	A*23:01(1211), B*49:01(13645), B*53:01(9006)	83	332			Positive	No class II DSA	280	341	YES
3224	177	70	300			Positive		140	329			Positive		201	199	YES
3753	177	50	358			Positive	B49(18657), B53(10894), A23(3718)	100	374			Positive	DR51(1920)	239	267	YES
3808	177	325	335			Positive	B*49:01(5818), B*53:01(2950), A*23:01(709)	467	276			Positive	DRB5*02:02(1206)	256	354	YES
3966	177	20	345			Positive		50	428			Positive		145	200	NO
5214	177	19	99		50841	Positive	A23(8123) B49(21041) B53(15079)	28	96		69967	Positive	DR51(2030)	251	253	YES
8001	177	50	333			Positive	A*23:01(4254) B*49:01(19633) B*53:01(12086)	100	317			Positive	DRB1*16:02(637) DRB5*02:02(1767)	213	336	YES
8050	177	50	311			Positive	B49(18631) B53(10583)	120	222			Positive	DR51(3587)	67	169	YES
8083	177		452			Positive	A*23:01(7370), B*49:01(19606), B*53:01(13716)				501	Positive	No class II DSA			YES
8103	177	965	720.5	1.2	169.2	Positive	A*23:01(2175), B*49:01(1014), B*53:01(5020)	1887	4113	1.7	1565.7	NT	No class II DSA	169.2	1565.7	NO
8111	177	76	4049			Positive	A23(7200), B49(19400), B53(12900)	114	6082			Positive	DR16(1200), DR51(3000)	247	294	YES

**Table 9. Individual Flow crossmatch results and DSA reported for Cell #176 vs. Serum #178**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	178	5.5	5.5			Negative	No Class I DSA	5.5	9.4			Positive	DR11(6069) DR16(5340) DPB1*04(7422)	4	3	YES
615	178	297	-45			Negative	No Class I DSA	288	231			Positive	DPA1*01(2587), DRB1*11(2485), DPB1*04(2470), DPB1*105 DRB1*16(2076), DPA1*03(1503)	209	215	YES
792	178	57	1			Negative	No Class I DSA	107	181			Positive	DR11(4753), DR16(3002), DP4(2386), DR51(2067)	256	323	YES
1426	178	63	-20			Negative	No Class I DSA	83	167			Positive	DPB1*04:01(1012), DRB1*11:01(2739)	280	341	YES
3224	178	70				Negative		140	89			Positive	DPA1*01 DSA present	201	199	YES
3753	178	50	22			Negative	No Class I DSA	100	151			Positive	DR16(1460), DR11(3045), DR51(1159), DQ6( 1786)	239	267	YES
3808	178	325	-107			Negative	No Class I DSA	467	121			Positive	DRB1*11:01(3754), DRB1*16:02(1051), DRB5*02:02(876), DPB1*04:02(955 for DPB1*105)	256	354	YES
3966	178	20	11			Negative		50	105			Positive		145	200	NO
5214	178	19	0		0	Negative	No Class I DSA	28	61		17684	Positive	DR11(5798) DR16(2978) DR51(2986) DPB04:01(2611) DPA01(2614)	251	253	YES
8001	178	50	13			Negative	No Class I DSA	100	256			Positive	DRB1*11:01(2124) DRB1*16:02(1618) DRB5*02:02(1500) DPB1*04:01(2275) DPA1*01:03(2394)	213	336	YES
8050	178	50	5			Negative	No Class I DSA	120	215			Positive	DR11(4027) DR16(2416) DR51(1221) DPA1*01(1988) DP4(2710)	67	169	YES
8083	178		73			Negative	No Class I DSA				262	Positive	DRB1*11:01(3913) DRB1*16:02(2693), DR51(2434)			YES

**Table 9. Individual Flow crossmatch results and DSA reported for Cell #176 vs. Serum #178 - cont.**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
8103	178	965	219.5	1.2	169.2	Borderline	No Class I DSA	1887	2741.5	1.7	1565.7	Positive	DRB1*11:01(2175), DEB1*16:02(1014), DR51(875)	169.2	1565.7	NO
8111	178	76	43			Negative	No Class I DSA	114	2024			Positive	DR11(6900),DR16(4600), DR51(3600),DP4(3900)	247	294	YES

**Table 10. Individual Flow crossmatch results and DSA reported for Cell #176 vs. Serum #179**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	179	5.5	5.4			Borderline	Cw7(19542)	5.5	2.47			Negative	No class II DSA	4	3	YES
615	179	297	-57			Negative	No class I DSA	288	-46			Negative	No class II DSA	209	215	YES
792	179	57	119			Positive	Cw7(18887)	107	68			Negative	No class II DSA	256	323	YES
1426	179	63	71			Positive	C*07:01(16391)	83	50			Negative	Slight shift detected	280	341	YES
3224	179	70	49			Positive		140				Borderline		201	199	YES
3753	179	50	74			Positive	Cw7 (22378) C*07:01(11005) ? false pos.	100	51			Negative	No class II DSA	239	267	YES
3808	179	325	-10			Negative		467	-71			Negative	No class II DSA	256	354	YES
3966	179	20	18			Negative		50	6			Negative		145	200	NO
5214	179	19	32		3179	Positive	C7(22733)	28	22		2635	Positive	No class II DSA	251	253	YES
8001	179	50	166			Positive	Cw7(19451)	100	72			Negative	No class II DSA	213	336	YES
8050	179	50	69			Negative	Cw6(10956)	120	0			Negative	No class II DSA	67	169	YES
8083	179		24			Negative	No class I DSA			-8		Negative	No class II DSA			YES
8103	179	965	259.5	1.2	169.2	Borderline	No class I DSA	1887	1789.5	1.7	1565.7	Borderline	No class II DSA	169.2	1565.7	NO
8111	179	76	405			Positive	Cw7(21000)	114	313			Positive	No class II DSA	247	294	YES

**Table 11. Individual Flow crossmatch results and DSA reported for Cell #176 vs. Serum #180**

Ctr	Serum no	T-Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA( )	B-Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA( )	T-Cell NEG Control MC	B-Cell NEG Control MC	Pronase Treated
230	180	5.5	9.11			Positive	A23(22206) B53(3091) A*23:01 (11629) B*53:01 (1574)	5.5	23.8			Positive	DR11(2792) A23(22206) B53(3091) DRB1*11:01 (1502) DPB1*105:01 (1861)	4	3	YES
615	180	297	193			Positive	A23 (10926)	288	266			Positive	No class II DSA	209	215	YES
792	180	57	196			Positive	A*23:01 (14970 MFI), B*53:01 (1726 MFI)	107	238			Positive	DRB1*11:01 (1377 MFI)	256	323	YES
1426	180	63	257			Positive		83	306			Positive	280	341	YES	
3224	180	70	193			Positive		140	230			Positive		201	199	YES
3753	180	50	213			Positive	A23 (16471), B53(1772) A*23:01 (6175), B*53:01 (588)	100	323			Positive	DR11 (1226) DRB1*11:01 (1020), DPB1*04:02 (1149)	239	267	YES
3808	180	325	218			Positive		467	181			Positive		256	354	YES
3966	180	20	59			Positive		50	100			Positive		145	200	NO
5214	180	19	74	19827		Positive	A23 (17030) B53 (1736)	28	89		52683	Positive	DR11 (1493) DPB04:02 (1457)	251	253	YES
8001	180	50	286			Positive	A*23:01(14345) B*53:01(1777)	100	279			Positive	DRB1*11:01 (1402)	213	336	YES
8050	180	50	208			Positive	A23(17353)	120	161			Positive	DR11(1592) DPB1*105:01(DPB1*04:02 ,1571)	67	169	YES
8083	180		129			Positive	A*23:01(17376)				172	Positive	No class II DSA			YES
8103	180	965	216	1.2	169.2	Positive	A*23:01 (5047)	1887	1480.5	1.7	1565.7	Borderline	No class II DSA	169.2	1565.7	NO
8111	180	76	2064			Positive	A23(17000),B53(2000)	114	4154			Positive	DR11(1900)	247	294	YES

## **Single Antigen**

**Table 12. Summary of Single Antigen results for Serum #177**

Class I								
*** Serum 177 ***								
16 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
B45	16	100%	24316	22668	7326	1496	31576	
B44	16	100%	22555	22522	4425	14477	30486	
B76	16	100%	22549	22310	5074	12968	30690	
B82	16	100%	17347	17163	3653	9990	25035	
<b>B49</b>	16	100%	16197	15875	5430	5818	27387	
<b>B13</b>	16	100%	15462	14486	5382	4244	25536	
B41	16	100%	14588	14585	5243	5011	25564	
B50	16	100%	14398	14402	4922	6238	25825	
B60	16	100%	13824	13848	5271	4723	25230	
B47	16	100%	13602	13688	4825	5493	24847	
B61	16	100%	13336	13083	4865	4212	23114	
B62	16	100%	10401	10372	3891	2763	16467	
B72	16	100%	10371	10482	3960	2827	16993	
<b>B53</b>	16	100%	10272	10190	3825	2950	18029	
<b>A1</b>	16	100%	10180	9620	4260	2565	18069	
B77	16	100%	9893	10022	3931	3396	18952	
B35	16	100%	9464	8947	3578	2004	14685	
B38	16	100%	8981	8889	3883	2362	18470	
B75	16	100%	8277	8102	3459	1753	14966	
B51	16	100%	7904	7651	3202	1415	13502	
B78	16	100%	6437	6529	2572	1837	11098	
B71	16	100%	6404	6894	3142	2030	13700	
B37	16	100%	6226	6184	2853	1142	12646	
<b>B52</b>	16	100%	5553	5628	2134	1352	9224	
B59	16	100%	4953	4974	2125	1084	8730	
B18	16	100%	4114	4382	2014	712	7767	
B57	16	100%	3674	3660	1743	799	7926	
B46	15	93%	4883	5093	1939	915	9190	
B63	15	93%	3333	3353	1316	1004	5906	
<b>A23</b>	14	87%	5110	5068	2267	1211	8123	
B48	14	87%	3531	3843	1315	1492	6748	
B58	14	87%	2362	2682	1165	688	5930	
A24	12	75%	4728	4878	2229	1231	8183	
B39	11	68%	1962	2801	1995	1267	7571	
B8	11	68%	1597	1840	745	508	3272	
B56	8	50%	1357	1639	601	964	2901	

Class II								
*** Serum 177 ***								
16 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
DR4	16	100%	6619	6195	2410	1654	11185	
DQ9	16	100%	3860	3827	1842	914	8363	
DQ7	16	100%	3634	3511	1638	769	7438	
DQ8	15	93%	3845	3674	1600	1013	7419	
<b>DR51</b>	14	87%	2230	2413	937	1227	4706	
<b>DR53</b>	13	81%	2032	2111	1119	551	5099	
DQA1*03	6	37%	2593	3310	1983	1653	7247	
<b>DR15</b>	5	31%	1050	1238	573	783	2349	
<b>DR16</b>	4	25%	908	1202	622	728	2267	
DQ4	2	12%	1490	1490	26	1464	1516	
DQ3	1	6%	1885	1885	-	1885	1885	
DQA1*05	1	6%	1671	1671	-	1671	1671	
DQA1*06	1	6%	1560	1560	-	1560	1560	

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 13. Summary of Single Antigen results for Serum #178**

Class I *** Serum 178 ***								
16 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
A11	16	100%	13758	13174	5631	3029	23233	
A25	15	93%	3427	3596	1786	976	7422	
A43	14	87%	3075	3302	1566	645	6768	
A26	13	81%	2811	3032	1316	646	5983	
A66	9	56%	3269	3339	2063	986	7354	
A6601	8	50%	3220	3050	981	1109	4443	
A34	2	12%	1032	1031	324	708	1355	
A1	2	12%	980	979	338	642	1317	
A1102	1	6%	5392	5392	-	5392	5392	
A1101	1	6%	5345	5345	-	5345	5345	
Bw4	1	6%	976	976	-	976	976	
B62	1	6%	548	548	-	548	548	

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

Class II *** Serum 178 ***								
16 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
<b>DR53</b>	16	100%	27380	26107	5484	14790	33425	
DR4	16	100%	25999	25180	4604	15497	31012	
DQ9	16	100%	22661	21096	5674	9502	30953	
DQ8	16	100%	22049	21022	5189	12184	28733	
DR9	16	100%	12267	11862	3265	4526	16499	
DR1	16	100%	11491	11774	3604	5069	19162	
<b>DR7</b>	16	100%	9334	9601	2867	3515	15225	
DR10	16	100%	8269	7833	3449	2400	15720	
DR103	16	100%	8246	8622	2524	3895	13537	
<b>DR11</b>	16	100%	4389	4695	1658	2585	7809	
DR8	16	100%	3502	5572	6209	1861	28733	
<b>DR16</b>	16	100%	2851	2610	1166	1030	5339	
<b>DR15</b>	16	100%	2680	2916	1230	1216	5351	
<b>DR51</b>	15	93%	2049	2284	1346	875	5831	
DQA1*03	14	87%	16265	17963	4953	12509	29010	
DR14	14	87%	9130	9052	3081	4019	14587	
DR13	13	81%	2868	3039	1330	1580	6503	
DQ4	12	75%	13149	12053	7229	684	21893	
DP28	12	75%	4519	4635	1636	2594	9207	
<b>DQA1*02</b>	10	62%	4439	7443	6216	1434	18007	
DPw2	10	62%	2577	2478	881	841	4000	
DPw4	10	62%	2448	2787	1679	955	7273	
DP23	8	50%	2318	2539	514	2160	3800	
<b>DPA1*01</b>	7	43%	2700	2691	810	1312	3719	
DP20	7	43%	1800	1933	512	1460	3100	
DP18	6	37%	1873	2037	934	869	3349	
DQ7	4	25%	9096	8203	4122	1666	12956	
DPw1	4	25%	1840	1685	550	788	2273	
<b>DQ2</b>	3	18%	4515	6104	4849	1122	12676	
DR1404	3	18%	4273	5374	1906	3795	8056	
DP402	3	18%	2262	1943	714	955	2614	
DPA1*04	3	18%	2016	2751	1586	1284	4954	
DPA1*03	3	18%	1828	1944	415	1504	2500	
DPw3	3	18%	1421	1283	380	765	1664	
DPw6	3	18%	1347	1203	359	710	1553	
DP19	3	18%	1295	1302	79	1209	1402	

**Table 14. Summary of Single Antigen results for Serum #179**

Class I								
*** Serum 179 ***								
16 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
B73	16	100%	20185	18946	4834	8885	26683	
<b>Cw7</b>	16	100%	19496	19844	4081	12133	27765	
A11	16	100%	16368	15449	4012	6458	21914	
<b>A1</b>	16	100%	16022	14758	4502	4346	21403	
A25	16	100%	14223	13947	3857	6202	19742	
A36	16	100%	13929	13644	4069	4867	20370	
A80	16	100%	13773	13409	4254	4676	19523	
A34	16	100%	13158	13109	3883	5011	19293	
Cw18	16	100%	13031	12612	4529	2613	19117	
A26	16	100%	12711	12824	3975	4707	19969	
A43	16	100%	11803	11702	3933	3778	19771	
<b>Cw6</b>	16	100%	8388	8637	3289	2498	16313	
Cw17	16	100%	7464	7974	3064	2474	14405	
Cw16	14	87%	2723	3170	1164	1900	5754	
A6601	10	62%	12437	11523	3726	4924	18255	
A66	9	56%	11890	11855	4575	4924	20077	
A1102	2	12%	7102	7101	644	6458	7745	
A1101	2	12%	6894	6894	635	6259	7529	
<b>Cw12</b>	2	12%	6312	6312	2349	3963	8661	
Bw4	1	6%	11368	11368	-	11368	11368	

Class II								
*** Serum 179 ***								
1 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
<b>DQ2</b>	16	100%	17153	17513	5686	4225	27415	
DQA1*05	1	6%	11024	11024	-	11024	11024	
DQ5	1	6%	6425	6425	-	6425	6425	
DR4	1	6%	4703	4703	-	4703	4703	
DQ6	1	6%	3999	3999	-	3999	3999	
DQ4	1	6%	3384	3384	-	3384	3384	
DR52	1	6%	3304	3304	-	3304	3304	
DR15	1	6%	3200	3200	-	3200	3200	
DR18	1	6%	2923	2923	-	2923	2923	
DR1403	1	6%	2732	2732	-	2732	2732	
DR103	1	6%	2616	2616	-	2616	2616	
DPw5	1	6%	2551	2551	-	2551	2551	
DPw3	1	6%	2481	2481	-	2481	2481	

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 15. Summary of Single Antigen results for Serum #180**

Class I								
*** Serum 180 ***								
16 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
A23	16	100%	14658	13833	4435	5047	22206	
A24	16	100%	13154	13079	3826	5547	19155	
B35	16	100%	2549	2753	1360	625	6598	
B53	14	87%	1775	1847	700	588	3090	
B51	10	62%	1223	1358	469	585	2400	
A2403	4	25%	3328	4733	3030	2429	9850	
B78	3	18%	641	734	261	472	1091	
B75	2	12%	508	507	4	504	511	
Bw4	1	6%	9006	9006	-	9006	9006	
Bw6	1	6%	1326	1326	-	1326	1326	
B8	1	6%	748	748	-	748	748	
B71	1	6%	645	645	-	645	645	
A68	1	6%	605	605	-	605	605	
B77	1	6%	533	533	-	533	533	
A2	1	6%	529	529	-	529	529	
B54	1	6%	526	526	-	526	526	
B60	1	6%	501	501	-	501	501	
B7801	1	6%	472	472	-	472	472	

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

Class II								
*** Serum 180 ***								
16 typing Labs								
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max	
DQ7	16	100%	14799	14549	4175	5129	20744	
DQ8	16	100%	13622	13254	3560	4735	20140	
DQ9	16	100%	13119	13009	3912	4572	21338	
DPw3	16	100%	7065	7251	2499	1644	13881	
DPw6	16	100%	6934	7250	2429	1648	13435	
DP9	16	100%	6908	7243	2593	1757	14241	
<b>DP17</b>	16	100%	6459	6774	2536	1450	13982	
DP14	16	100%	6162	6459	2374	1559	13202	
DP20	14	87%	6779	7205	2584	1575	13951	
DPw2	9	56%	1592	1536	359	858	2153	
DP18	9	56%	1460	1373	258	838	1733	
<b>DR11</b>	9	56%	1451	1460	330	1020	2090	
DP28	9	56%	1346	1355	303	891	1938	
DQA1*05	8	50%	2806	5967	5515	1889	16671	
DP10	7	43%	1691	1693	246	1184	1942	
DP402	7	43%	1527	1487	321	998	2064	
DPw4	4	25%	1589	1696	477	1149	2458	
DP11	4	25%	1204	1268	188	1084	1582	
<b>DQ2</b>	3	18%	2117	1794	565	1000	2266	
DPw1	3	18%	1291	1340	99	1251	1478	
DQA1*06	2	12%	8984	8984	3855	5129	12839	
DQ4	2	12%	1120	1119	316	804	1435	
DPw5	2	12%	1030	1030	281	749	1311	
DQ3	1	6%	5448	5448	-	5448	5448	
DQA1*03	1	6%	4735	4735	-	4735	4735	
DP19	1	6%	813	813	-	813	813	
DP13	1	6%	775	775	-	775	775	

**Table 16a. Individual laboratory results for Serum #177 - class I by One Lambda Single Antigen**

	**** Serum 177 ****																								
Ctr	A1	B13	B18	B35	B37	B38	B41	B44	B45	B47	B49	B50	B51	B52	B53	B57	B59	B60	B61	B62	B71	B72	B75	B76	B77
230	18069	25536	7767	13668	12646	18470	25564	30486	31576	24847	27387	25825	13502	9224	18029	7926	8730	25230	23114	16467	13700	16993	14966	30690	18952
615	9039	12088	3973	7693	5168	6982	12320	20063	20202	11713	13409	11923	6661	4956	8884	3262	4175	11505	11360	8648	5411	9023	7183	19259	8193
792	9550	14284	3741	7933	5072	7500	13680	22919	24394	12974	14672	13126	6820	4963	9090	3312	4349	13121	12843	9043	5376	9152	7171	22081	8887
1426	5886	10861	3511	6518	5019	7547	12166	19783	19967	10722	13645	11390	6225	5111	9006	2729	3994	10601	10492	9437	5569	9533	6657	20778	7674
2400	10634	13653	4743	9488	6376	8575	14613	21450	24237	13553	15226	13989	7855	5766	9961	3629	5273	13638	12543	10376	6774	10224	7854	22312	9768
3224	10714	15837	4226	9343	6181	8655	14562	22346	23598	13650	16461	14327	8012	5339	9591	3742	4909	14009	13413	10351	6480	10454	7994	21372	10018
3632	9725	15086	6188	10421	6163	9307	14163	25604	26610	12784	15932	14468	9070	6981	11769	3841	5742	13346	13258	12169	11536	12783	9451	24575	9767
3753	11040	17688	3685	9439	6271	9381	17755	27823	29988	16365	18657	16989	7518	5329	10894	3719	4505	17075	15450	10426	5994	10288	8559	27760	11328
5214	14841	18872	7753	14685	9279	13952	19705	22764	23251	18044	21041	19013	12014	8921	15079	5345	8388	18850	17488	16025	10848	16624	12722	22786	15084
8001	11648	18676	4769	11060	7531	10224	18178	26075	26398	16775	19633	17326	9021	6170	12086	4824	6018	17358	16450	11943	7421	12215	9639	25755	12453
8050	5361	16183	4002	9656	6856	9396	16905	25962	29617	15582	18631	16779	7952	6207	10583	3230	4996	15832	14732	11802	6328	11454	8888	27265	10555
8083	13400	19137	6276	12407	7834	11469	18397	26673	27517	17131	19606	18116	10616	7568	13716	5275	7051	18130	17430	14376	8929	14379	10888	26600	13081
8103	4175	7603	1899	3982	2417	3918	6778	14477	1496	6337	7548	6830	3493	2633	5020	1282	2084	6134	5961	4724	2597	4841	3172	13124	4444
8111	13900	17000	5835	12110	9350	11400	17700	22250	25655	16638	19124	17000	10200	7300	12530	4700	6730	16895	16000	13621	8600	13100	10600	25072	12500
<b>Avg</b>	10570	15893	4883	9886	6869	9770	15892	23477	23893	14794	17212	15507	8497	6176	11160	4058	5496	15123	14324	11386	7540	11505	8982	23531	10907
<b>Std Dev.S</b>	3813	4310	1680	2853	2444	3444	4371	4016	7287	4254	4563	4389	2537	1730	3141	1542	1791	4493	3985	3120	2922	3204	2839	4331	3499
<b>MFI %CV</b>	36%	27%	34%	29%	36%	35%	28%	17%	30%	29%	27%	28%	30%	28%	28%	38%	33%	30%	28%	27%	39%	28%	32%	18%	32%

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 16b. Individual laboratory results for Serum #177 - class I by Lifecodes-Immucor**

	**** Serum 177 ****																								
Ctr	A1	B13	B18	B35	B37	B38	B41	B44	B45	B47	B49	B50	B51	B52	B53	B57	B59	B60	B61	B62	B71	B72	B75	B76	B77
3808	2565	4244	712	2004	1142	2362	5011	14957	13620	5493	5818	6238	1415	1352	2950	799	1084	4723	4212	2763	2030	2827	1753	12968	3396
8029	3387	5035	1034	2745	1649	3100	5868	16730	14571	6414	7223	7096	2044	2241	3853	955	1564	5131	4593	3783	2715	3832	2143	14566	4261
<b>Avg</b>	2976	4640	873	2375	1396	2731	5440	15844	14096	5954	6521	6667	1730	1797	3402	877	1324	4927	4403	3273	2373	3330	1948	13767	3829
<b>Std Dev.S</b>	581	559	228	524	359	522	606	1254	672	651	993	607	445	629	639	110	339	288	269	721	484	711	276	1130	612
<b>MFI %CV</b>	20%	12%	26%	22%	26%	19%	11%	8%	5%	11%	15%	9%	26%	35%	19%	13%	26%	6%	6%	22%	20%	21%	14%	8%	16%

**Table 16a. Individual laboratory results for Serum #177 - class I by One Lambda Single Antigen, cont.**

	**** Serum 177 ****													
Ctr	B78	B82	B46	B63	A23	B48	B58	A24	B39	B8	B56	B64	Other	Manufacturer
230	10958	25035	9190	5030	6831	6748	5930	4711	6151	3272	2901	2126	Cw7,B4005	One Lambda
615	5639	13666	3899	2608	4940	2894	1965	4745	1267	1475	964	825	A*24:02	One Lambda
792	5527	16023	4295	2601	5087	2859	2064	4425						One Lambda
1426	5459	13408	4363	3333	1211	3183	1787		1450	1246				One Lambda
2400	6746	16893	4766	3584	6307	3887	2415	6077						
3224	6627	16408	4251	2856	5133	3054	2308		1631	1597	1270	990	Bw4	One Lambda
3632	7889	17800	4883	4567	7885	4798	2245	8183	7571				B4005	One Lambda
3753	6103	20301	5362	2532	3718	3112	2428	2438	1612	1523	1311			One Lambda
5214	11098	20374	7526	5906	8123	5805	3752	7717	2985	2660	2146			One Lambda
8001	7559	18320	5543	3577	4254	3878	3221	3497	1962	2029	1403	1329	Bw4, A*24:02	One Lambda
8050	6246	20305	6700	2719		2921	2233		1512	1217	1193			One Lambda
8083	8838	20017	6502	4698	7370	4772	3169	6766	2247	2416				One Lambda
8103	2908	9990	2370	1180	1449	1492		1231					B40,B15,B7801,B8201	One Lambda
8111	8411	19190	5835	4100	6885	4400	3350	7000	2424	2300	1925	1465		One Lambda
<b>Avg</b>	7143	17695	5392	3521	5323	3843	2836	5163	2801	1974	1639	1347		
<b>Std Dev.S</b>	2208	3739	1703	1242	2239	1365	1108	2214	2092	680	642	505		
<b>MFI %CV</b>	31%	21%	32%	35%	42%	36%	39%	43%	75%	34%	39%	38%		

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 16b. Individual laboratory results for Serum #177 - class I by Lifecodes-Immucor, cont.**

	**** Serum 177 ****													
Ctr	B78	B82	B46	B63	A23	B48	B58	A24	B39	B8	B56	B64	Other	Manufacturer
3808	1837	13259											B7801	Immucor
8029	2631	13624	915	1004	1761		688	1756		508			Bw4,Bw6,B3901	LIFECODES
<b>Avg</b>	2234	13442	-	-	-	-	-	-	-	-	-	-	-	
<b>Std Dev.S</b>	561	258	-	-	-	-	-	-	-	-	-	-	-	
<b>MFI %CV</b>	25%	2%	-	-	-	-	-	-	-	-	-	-	-	

**Table 17a. Individual laboratory results for Serum #178 - class I by One Lambda Single Antigen**

Center N	**** Serum 178 ****							Manufacturer
	A11	A25	A43	A26	A66	A6601	Other	
230	23233	7422	6768	5983	7354			One Lambda
615	12894	3372	3018	2673	3289	3289	B62,A1,A34	One Lambda
792	13648	3427	2952	2591	3208			One Lambda
1426	7528	1575	1377		1342			One Lambda
2400	14495	3477	3132	2811	3269			
3224	13868	3206	2957	2462		2907		One Lambda
3632	13628	3423	2735	2993		3150		One Lambda
3753	15548	3509	3205	2630	3394			One Lambda
5214	17977	4579	3826	3554		4443		One Lambda
8001	15536	3803	3252	3037		3464		One Lambda
8050	10036	2122	1903	1408		2091		One Lambda
8083	22126	6919	5991	5039	6105		A1,A34	One Lambda
8103	5392	1173			1109	1109	A1101,A1102	One Lambda
8111	17000	4960	4480	3600		3950		One Lambda
<b>Avg</b>	14494	3783	3507	3232	3634	3050		
<b>Std Dev.S</b>	4890	1764	1492	1219	2140	1049		
<b>MFI %CV</b>	34%	47%	43%	38%	59%	34%		

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 17b. Individual laboratory results for Serum #178 - class I by Lifecodes-Immucor**

Center N	**** Serum 178 ****							Manufacturer
	A11	A25	A43	A26	A66	A6601	Other	
3808	3029							Immucor
8029	4858	976	645	646	986		Bw4	LIFECODES
<b>Avg</b>	3944	-	-	-	-	-		
<b>Std Dev.S</b>	1293	-	-	-	-	-		
<b>MFI %CV</b>	33%	-	-	-	-	-		

**Table 18a. Individual laboratory results for Serum #179 - class I by One Lambda Single Antigen**

	**** Serum 179 ****																	
Ctr	A1	A11	A25	A26	A34	A36	A43	A80	B73	Cw17	Cw18	Cw6	Cw7	Cw16	A6601	A66	Other	Manufacturer
230	12207	18345	19224	19969	19293	20370	19771	19523	14196	14405	18543	16313	19541	5754		20077	Cw12	One Lambda
615	13971	13885	12110	11205	11490	12033	10319	11978	17310	6258	11896	7374	17686	2229	11132	11132		One Lambda
792	16557	16287	13788	12488	13357	13772	11605	13545	20223	6522	12951	8735	18887	2770		11930		One Lambda
1426	16232	15570	14245	12792	12833	13594	12001	13459	17648	7437	12681	9105	18987	2635		12625		One Lambda
2400	15264	15260	13727	12630	12588	13240	11148	13004	20357	8127	12745	8321	21321	2676		11890		
3224	12637	13348	10937	10193	10322	10996	8929	10126	17309	5792	10480	6160	17976	1909	9464			One Lambda
3632	15900	16448	14580	15532	14270	14471	12806	14200	22841	7913	13385	9004	23200	3469	13452		Cw12	One Lambda
3753	17403	17007	15046	13417	13628	14481	12340	14605	20603	8793	14388	8313	22378	2868	12979			One Lambda
5214	21265	20884	19412	18161	18757	19369	16629	19423	22845	12146	18537	12777	22733	5070	18255			One Lambda
8001	16144	16628	14201	12566	12958	14085	11515	14121	20146	5817	13110	8039	19451	2210	12449			One Lambda
8050	18668	18574	17059	14883	15407	16058	13626	18046	25645	12140	16476	10956	25785	3917	14196			One Lambda
8083	21403	21914	19742	17879	18831	19486	16973	18818	26683	11687	19117	12473	27765	4497		17755		One Lambda
8103	7237	7745	6526	5793	6517	6825	5558	6166	10207	5259	5844	3899	12354	1900	5962	5962	A1101,A1102	One Lambda
8111	17100	17000	15000	13370	14500	14400	12290	14000	22570	7490	13160	8454	21080	2480	12425			One Lambda
<b>Avg</b>	15856	16350	14686	13634	13911	14513	12536	14358	19899	8556	13808	9280	20653	3170	12257	13053		
<b>Std Dev.S</b>	3663	3423	3550	3588	3475	3572	3518	3722	4379	2885	3539	3057	3770	1208	3362	4623		
<b>MFI %CV</b>	23%	21%	24%	26%	25%	25%	28%	26%	22%	34%	26%	33%	18%	38%	27%	35%		

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 18b. Individual laboratory results for Serum #179 - class I by Lifecodes-Immucor**

	**** Serum 179 ****																	
Ctr	A1	A11	A25	A26	A34	A36	A43	A80	B73	Cw17	Cw18	Cw6	Cw7	Cw16	A6601	A66	Other	Manufacturer
3808	4346	6458	6202	4707	5011	4867	3778	4676	8885	2474	2613	2498	12133		4924	4924	A1101,A1102	Immucor
8029	9800	11834	11368	9601	9994	10262	7957	8866	15676	5330	5874	5786	16232			10401	Bw4	LIFECODES
<b>Avg</b>	7073	9146	8785	7154	7503	7565	5868	6771	12281	3902	4244	4142	14183	-	-	7663		
<b>Std Dev.S</b>	3857	3801	3653	3461	3524	3815	2955	2963	4802	2019	2306	2325	2898	-	-	3873		
<b>MFI %CV</b>	55%	42%	42%	48%	47%	50%	50%	44%	39%	52%	54%	56%	20%	-	-	51%		

**Table 19a. Individual laboratory results for Serum #180 - class I by One Lambda Single Antigen**

	**** Serum 180 ****							
Ctr	A23	A24	B35	B53	B51	A2403	Other	Manufacturer
230	22206	19034	6598	3090	2400			One Lambda
615	11629	12016	2265	1574	1210		B78,B75,B*15:02	One Lambda
792	10926	11662	2070					One Lambda
1426	14970	11504	2670	1726	1233			One Lambda
2400	16682	13855	4268	2810				
3224	12764	13226	1887	1208	944			One Lambda
3632	12569	14107	3131	2162				One Lambda
3753	16471	12844	2447	1772	1213			One Lambda
5214	17030	13998	2455					One Lambda
8001	14345	15332	2643	1777	1472			One Lambda
8050	17353	13081	3678	2467	1776			One Lambda
8083	17376	19155	3642	2592				One Lambda
8103	5047	5547	1220	870		2429		One Lambda
8111	17325	18550	3130	1935	1600	9850		One Lambda
<b>Avg</b>	14764	13851	3007	1999	1481	6140		
<b>Std Dev.S</b>	4069	3552	1304	654	454	5247		
<b>MFI %CV</b>	28%	26%	43%	33%	31%	85%		

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 19b. Individual laboratory results for Serum #180 - class I by Lifecodes-Immucor**

	**** Serum 180 ****							
Ctr	A23	A24	B35	B53	B51	A2403	Other	Manufacturer
3808	6175	6347	625	588	585	2528	B78,B7801	Immucor
8029	8474	9006	1326	1298	1151	4128	A2,B60,B78,B75 >	LIFECODES
<b>Avg</b>	7325	7677	976	943	868	3328		
<b>Std Dev.S</b>	1626	1880	496	502	400	1131		
<b>MFI %CV</b>	22%	24%	51%	53%	46%	34%		

**Table 20a. Individual laboratory results for Serum #177 - class II by One Lambda Single Antigen**

	**** Serum 177 ****										
Ctr	DQ7	DQ9	DR4	DQ8	DR51	DR53	DQA1*03	DR15	DR16	Other	Manufacturer
230	7438	8363	11185	7419	4706	5099	7247	2349	2267		One Lambda
615	3684	3587	6666	3845	2326	2032		783	816	DQ4	One Lambda
792	3206	3859	6646	3569	2105	1657					One Lambda
1426	2172	2130	2943	1865	1272	1221					One Lambda
2400	3187	2890	5822	2913	2146						
3224	3602	4108	6592	3895	1962	1786	4108	839	728		One Lambda
3632	2780	3124	5511	3003							One Lambda
3753	3666	3861	5724	3341	1920	1846			DQ4		One Lambda
5214	4449	4760	7352	4169	2314	2151					One Lambda
8001	4231	4848	7747	4785	2407	2048	1653			DQA1*03:03	One Lambda
8050	4301	4507	7632	3945	3587	2865	1671	1171		DQA1*03:03	One Lambda
8083	5178	5858	8726	5781	3405	2776					One Lambda
8103	1590	1885	1654				1885			DQ3,DQA1*05,DQA1*06	One Lambda
8111	5000	5500	8500	4400	3000	2800	3300	1050	1000		One Lambda
Avg	3892	4234	6621	4072	2596	2389	3311	1238	1203		
Std											
Dev.S	1433	1657	2361	1384	929	1037	2173	640	718		
MFI											
%CV	37%	39%	36%	34%	36%	43%	66%	52%	60%		

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 20b. Individual laboratory results for Serum #177 - class II by Lifecodes-Immucor**

	**** Serum 177 ****										
Ctr	DQ7	DQ9	DR4	DQ8	DR51	DR53	DQA1*03	DR15	DR16	Other	Manufacturer
3808	769	914	2966	1013	1227	551					Immucor
8029	925	1039	3464	1167	1418	614					LIFECODES
Avg	847	977	3215	1090	1323	583	-	-	-		
Std											
Dev.S	110	88	352	109	135	45	-	-	-		
MFI											
%CV	13%	9%	11%	10%	10%	8%	-	-	-		

**Table 21a. Individual laboratory results for Serum #178 - class II by One Lambda Single Antigen**

	**** Serum 178 ****																								
Ctr	DQ8	DQ9	DR1	DR10	DR103	DR11	DR15	DR16	DR4	DR53	DR7	DR8	DR9	DR51	DQA1*03	DR14	DR13	DP28	DQ4	DPw2	DPw4	DQA1*02	DP23	DP20	
230	28559	30953	19162	15720	13537	6848	5351	5339	31012	33425	15225	4638	16499	4565	29010	14587		9207	11794		7273	10806			
615	19450	18079	9803	7234	6983	2585	2516	2938	20327	22370	8110	2767	10323	2049	19450	7813	2868	4820	14504	2588	2470	13069	2320	1504	
792	23460	23228	12234	8252	8498	4753	3789	3002	26679	27434	9000	4791	12636	2067		9121	3330	4538	17935	2414	2386		2204	1781	
1426	16520	17976	8690	4931	7332	3176	1372	1030	23319	24900	5435	3322	7587		15691	8177	2393	2594			1012	6119			
2400	18954	18917	11575	8960	8523	3491	2781	3158	24460	27326	9599	3678	10853	2467	17374	9120	3230	3676	2639	3132	2714	1610	2801		
3224	23489	23172	11406	8013	7993	4059	3287	2764	25318	27127	9069	3674	12382	1703	23489			4954	18200	2566	2426	16422	2230	1828	
3632	25630	24732	15153	8861	11840	7809	4524	3199	30071	29875	11170	7924	15838	5831	12509	9852	6503		18847			2518			
3753	20021	22221	9318	5547	5987	3045	1529	1460	29435	29484	6639	2560	8399	1159	15289	9139	1580	2646				1687			
5214	21366	22322	15190	11150	11395	6656	3307	3167	23374	23547	13179	6336	15846	2571	16708	12296	4437	3951	7937	2930		2758	2315	2062	
8001	26706	25975	11181	8286	7456	2977	2345	1921	29333	30409	8042	3149	12151	1500	14317	10533	1785	5109	20089	2341		18007	2160	1460	
8050	22732	24432	12612	8411	8970	4027	2578	2416	29413	31251	10993	3329	13073	1221	15822	11831	2060	4032	7120	2884	2710	1434	2488	1800	
8083	28733	28040	14394	10268	10026	5261	4090	3043	29649	32259	10916	28733	15858	2460	26263	11751	3922	5603	21893						
8103	12899	9502	5069	2641	3895	2681	1459	1066	15497	14790	3515	2405	4526	875	12899	4117	1815								
8111	23000	23000	16800	11640	12180	6600	4500	4400	27000	29000	12800	7025	13500	3400	20000			4500	3000	4000	3700		3800	3100	
Avg	22251	22325	12328	8565	8901	4569	3102	2779	26063	27371	9549	6024	12105	2451	18371	9861	3084	4636	13087	2857	3086	7443	2540	1934	
Std Dev.S	4486	5156	3630	3164	2650	1769	1241	1190	4389	4822	3153	6756	3518	1421	5109	2660	1464	1708	6972	536	1844	6552	549	553	
MFI %CV	20%	23%	29%	37%	30%	39%	40%	43%	17%	18%	33%	112%	29%	58%	28%	27%	47%	37%	53%	19%	60%	88%	22%	29%	

Blue = DSA against cell #175 only

Gold = DSA against cell #176 only

Green = DSA against cell #175 and #176

**Table 21b. Individual laboratory results for Serum #178 - class II by Lifecodes-Immucor**

	**** Serum 178 ****																								
Ctr	DQ8	DQ9	DR1	DR10	DR103	DR11	DR15	DR16	DR4	DR53	DR7	DR8	DR9	DR51	DQA1*03	DR14	DR13	DP28	DQ4	DPw2	DPw4	DQA1*02	DP23	DP20	
3808	12663	12088	6844	2400	5678	4718	1216	1111	19849	17467	8962	1861	8925	876	12663	4019	1951			841	955				
8029	12184	12902	8957	3024	7666	6444	2021	1757	18151	17062	10969	2962	11396	1528		4377	3634		684	1088	2225				
Avg	12424	12495	7901	2712	6672	5581	1619	1434	19000	17265	9966	2412	10161	1202	-	4198	2793	-	-	965	1590	-	-	-	
Std Dev.S	339	576	1494	441	1406	1220	569	457	1201	286	1419	779	1747	461	-	253	1190	-	-	175	898	-	-	-	
MFI %CV	3%	5%	19%	16%	21%	22%	35%	32%	6%	2%	14%	32%	17%	38%	-	6%	43%	-	-	18%	56%	-	-	-	

**Table 21a. Individual laboratory results for Serum #178 - class II by One Lambda Single Antigen, cont.**

	**** Serum 178, cont. ****					
Ctr	DPA1*01	DP18	DPw1	DQ7	Other	Manufacturer
230				9814		One Lambda
615	3260			1666	DP19, <b>DPA1*03</b> , DRB1*13:03, DRB1*14:01, DRB1*14:54, DQB1*03:19	One Lambda
792		3349	1912	12956	DQ2,DPw3,DPw6	One Lambda
1426	1312	1612				One Lambda
2400		3115	2273			
3224	3524				DP19,DPA1*03,DPA1*04	One Lambda
3632					DR1404	One Lambda
3753		2133			<b>DQ6</b>	One Lambda
5214	2336				DP402, <b>DP401</b>	One Lambda
					DQ2,DP402, <b>DP401</b> ,DQA1*05, DRB1*13:03 DRB1*14:01 DRB1*14:54 DQA1*02:01 DQA1*03:01 DQA1*05:05 DQB1*02:02 DPA1*01:03 DPA1*01:04 DPA1*01:05 DPB1*02:01 DPB1*04:01 DPB1*04:02 DPB1*20:01 DPB1*23:01 DPB1*28:01	
8001	3719					One Lambda
8050	1988		1768		DPw3,DPw6,DP11,DP19, DRB1*14:01, DRB1*14:54, DRB1*13:03	One Lambda
8083						One Lambda
8103					DQ3,DPA1*04	One Lambda
8111	2700				DPA1*03	One Lambda
<b>Avg</b>	2691	2552	1984	8145		
<b>Std</b>						
<b>Dev.S</b>	875	819	260	5827		
<b>MFI</b>						
<b>%CV</b>	33%	32%	13%	72%		

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 21b. Individual laboratory results for Serum #178 - class II by Lifecodes-Immucor, cont.**

	**** Serum 178, cont. ****					
Ctr	DPA1*01	DP18	DPw1	DQ7	Other	Manufacturer
3808		869			DR1404,DP402,DPA1*04	Immucor
8029		1146	788	8378	DR1404,DQ2,DPw3,DPw5 >	LIFECODES
<b>Avg</b>	1008					
<b>Std</b>						
<b>Dev.S</b>	196					
<b>MFI</b>						
<b>%CV</b>	19%					

**Table 22a. Individual laboratory results for Serum #179 - class II by One Lambda Single Antigen**

**** Serum 179 ****			
Ctr	DQ2	Other	Manufacturer
230	17997		One Lambda
615	17295		One Lambda
792	22210		One Lambda
1426	14975		One Lambda
2400	13267		One Lambda
3224	19759		One Lambda
3632	27415		One Lambda
3753	13813		One Lambda
5214	16280		One Lambda
8001	22326		One Lambda
8050	19688		One Lambda
8083	27356		One Lambda
8103	4225	DQA1*05	One Lambda
8111	16050		One Lambda
<b>Avg</b>	18047		
<b>Std</b>			
<b>Dev.S</b>	5978		
<b>MFI</b>			
<b>%CV</b>	33%		

**Blue** = DSA against cell #175 only

**Gold** = DSA against cell #176 only

**Green** = DSA against cell #175 and #176

**Table 22b. Individual laboratory results for Serum #179 - class II by Lifecodes-Immucor**

**** Serum 179 ****			
Ctr	DQ2	Other	Manufacturer
3808	10557		Immucor
8029	17010	DR103,DR4,DR1403,DR15 >	LIFECODES
<b>Avg</b>	13784		
<b>Std</b>			
<b>Dev.S</b>	4563		
<b>MFI</b>			
<b>%CV</b>	33%		

**Table 23a. Individual laboratory results for Serum #180 - class II by One Lambda Single Antigen**

**** Serum 180 ****																			Manufacturer	
Ctr	DP14	DP17	DP9	DPw3	DPw6	DQ7	DQ8	DQ9	DP20	DP18	DP28	DPw2	DR11	DQA1*05	DP10	DP402	DP11	DPw4	Other	
230	13202	13982	14241	13881	13435	20508	20140	21338	13951					16671						One Lambda
615	6298	6755	6862	6976	7526	15174	14171	13068	6895	1531	1497	1584	1538		1861	1649	1222	1649	DQ2,DQ4,DPw1,DPw5, DQB1*02:01, DPB1*04:02>	One Lambda
792	5528	5772	6300	6157	6582	14423	13099	11941	5876										DQ2	One Lambda
1426	6054	6060	6843	6641	6214	14004	11563	12514	6458	1362	1346	1592	1399	2217	1691		1185	1528	DPw1	One Lambda
2400	7577	7457	7972	8042	7232	14181	12603	12201	7835											
3224	5031	5412	5794	5627	6110	13842	11743	11093	5348	1027	973	1068	1025	13842	1184	998			DQA1*06	One Lambda
3632	5532	6025	6302	6244	6502	16754	14505	14051	6228							2064				One Lambda
3753	6120	6421	6953	7055	6763	14308	12497	13169	6734					1226	1889					One Lambda
5214	6203	6848	7151	7293	6974	15928	14144	14922	6823	1460	1220	1619		2060	1641	1457				One Lambda
																		DPB1*03:01 DPB1*04:02 DPB1*06:01 DPB1*09:01 DPB1*10:01 DPB1*11:01 DPB1*14:01 DPB1*17:01 DPB1*18:01 DPB1*20:01		
8001	6237	6497	7285	7075	7487	17771	15525	14687	6648	1460	1365	1498	1451	2297	1593	1527	1084			One Lambda
8050	8073	8511	9515	9299	8886	17605	15447	16407	8997	1451	1315	1655	1592	3315	1942	1571	1582	DPw1		One Lambda
8083	8569	9209	9752	9775	10161	20744	18677	17188	9176											One Lambda
8103	1559	1450	1757	1644	1648	5129	4735	4572	1575					5448				DQ3,DQA1*03,DQA1*06		One Lambda
8111	7600	7990	8660	8500	8955	16180	14350	15300	8330	1500	1650	1800	1800		1940					One Lambda
Avg	6685	7028	7528	7444	7463	15468	13800	13747	7205	1399	1338	1545	1433	5967	1693	1544	1268	1589		
Std																				
Dev.S	2520	2695	2720	2675	2585	3735	3571	3726	2681	172	213	230	252	5896	266	343	217	86		
MFI																				
%CV	38%	38%	36%	36%	35%	24%	26%	27%	37%	12%	16%	15%	18%	99%	16%	22%	17%	5%		

Blue = DSA against cell #175 only

Gold = DSA against cell #176 only

Green = DSA against cell #175 and #176

**Table 23b. Individual laboratory results for Serum #180 - class II by Lifecodes-Immucor**

**** Serum 180 ****																			Manufacturer	
Ctr	DP14	DP17	DP9	DPw3	DPw6	DQ7	DQ8	DQ9	DP20	DP18	DP28	DPw2	DR11	DQA1*05	DP10	DP402	DP11	DPw4	Other	
3808	3899	4192	4174	4717	4645	6871	8087	6539		838	891	858	1020			1149		1149		Immucor
8029	5867	5806	6335	7102	6893	9373	10782	9155		1733	1938	2153	2090				2458	DQ2,DQ4,DPw5		LIFECODES
Avg	4883	4999	5255	5910	5769	8122	9435	7847		1286	1415	1506	1555			1149		1804		
Std																				
Dev.S	1392	1141	1528	1686	1590	1769	1906	1850		633	740	916	757			-		926		
MFI																				
%CV	28%	23%	29%	29%	28%	22%	20%	24%		49%	52%	61%	49%			-		51%		

## **Paper Challenge**

**Table 24. Individual Virtual crossmatch results for Serum #179 vs Donor# V1**

Donor #V1 HLA A\*11:01:01-A\*66:01:01-B\*41:02:01-B\*44:02:01-C\*05:01:01-C\*17:03:01-DRB1\*08:01:01-DRB1\*13:03:01-DRB3\*01:01:02-DQA1\*04:02-DQA1\*05:05-DQB1\*03:01:01G-DQB1\*04:02:01-DPA1\*01:03-DPB1\*04:01:01G-DPB1\*06:01:01G

Ctr	Patient	% CPRA	Virtual T Cell Prediction	Class I DSA(MFI)	Virtual B-cell prediction	Class II DSA(MFI)	Risk Assessment	Comments
230	179	20	Positive	A11(17470) A66(20078) Cw17(13798)	Positive	No class II DSA	Unacceptable	Due to Class I ab
792	179	85	Positive	A11(16287) A66(11930) Cw17(6522)	Positive	No class II DSA	Acceptable	
1426	179	85	Positive	A11(15986) A66(12625) Cw17(3682)	Positive	No class II DSA	Unacceptable	
1461	179	17	Positive	A11(5847) A66(5017) Cw17(1943)	Positive	No class II DSA	Unacceptable	
2400	179	85	Positive	A11(15595) A66(11794) Cw17(7937)	Positive	No class II DSA	Unacceptable	Due to Class I DSA
3224	179	85.19%	Positive	A11(13348) Cw17(5792) A6601(9464)	Positive	No class II DSA	Unacceptable	CLASS 1 Unacceptable Present
3632	179	87	Positive	A11(16448) A66(13452) Cw17(3389)	Positive	No class II DSA	Unacceptable	DSA'S to A11 (MFI= 16448), A66 (MFI= 13452),Cw17 (MFI= 3389). Do not recommend move forward. FXM most likely Positive. B cell VXM positive due to Class 1 DSA's.
3753	179	85	Positive	A11(17007) Cw17(8793) A6601(12979)	Positive	No class II DSA	Unacceptable	
3808	179		Positive	A11(6259) A66(4924) Cw17(2474)	Positive	No class II DSA	Unacceptable	No Class II DSA but predicted to be positive due to Class I DSA present
3966	179	85%	Positive	A11(18449) A66(13576) Cw7(20777)	Negative	No class II DSA	Unacceptable	No bead C*17:03 in SAB PANEL. NO DSA CLASS II
8001	179	85	Positive	A11(16628) Cw17(5817) A6601(12449)	Positive	No class II DSA	Unacceptable	Antibodies to B*41:02; cannot be ruled out as it is not represented on our LSAB panel. Antibodies to DQA1*04:02 cannot be ruled out as it is not represented on our LSAB panel
8029	179	17	Positive	A11(11580) A66(10401) Cw17(5330)	Positive	DR52(2883) DQ2(13436) DQ4(3384) DPw3(2481)	Unacceptable	-
8050	179	85.213	Positive	A11(18574) Cw17(12140) A6601(14196)	Positive	No class II DSA	Unacceptable	
8080	179	85	Positive	A11(13620) A66(10836) Cw17(3935)	Positive	No class II DSA	Unacceptable	Patient has Class I DSA
8083	179	85.21	Positive	A11(21914) A66(17755) Cw17(11687)	Positive	No class II DSA	Unacceptable	DSA to class I antibodies

**Table 24. Individual Virtual crossmatch results for Serum #179 vs Donor# V1, cont.**

Ctr	Patient	% CPRA	Virtual T Cell Prediction	Class I DSA(MFI)	Virtual B-cell prediction	Class II DSA(MFI)	Risk Assessment	Comments
8103	179	18	Positive	Cw6(3899) A11(7745) A66(5962) A1(7237) A25(6526) A26(5793) A34(6517) A36(6825) A43(5558) A80(6166) B73(10207) Cw7(12354) Cw16(1900) Cw17(5259) Cw18(5844) A1101(7529) A1102(7745) A6601(5962)	Negative	DQ2(4225) DQA1*05(11024)	Acceptable	Low MFI
8111	179	83	Positive	Cw17(7500) A1101(17500) A6601(12400)	Positive	No class II DSA	Unacceptable	due to Class I

**Table 25. Individual Virtual crossmatch results for Serum #179 vs Donor# V2**

Donor #V2 HLA A\*01:01:01-A\*23:01:01-B\*42:01:01-B\*50:01:01-C\*06:02:01-C\*17:01:01-DRB1\*03:02:01-DRB1\*07:01:01-DRB3\*01:01:02-DRB4\*01:03:01-DQA1\*02:01:01-DQA1\*04:01:01-DQB1\*02:02-DQB1\*04:02:01-DPA1\*01:03:01-DPA1\*02:01:01-DPB1\*01:01:02-DPB1\*04:02:01

Ctr	Patient	% CPRA	Virtual T Cell Prediction	Class I DSA(MFI)	Virtual B-cell prediction	Class II DSA(MFI)	Risk Assessment	Comments
230	179	20	Positive	Cw6(16313) A1(16533) Cw17(15013)	Positive	DQ2(11439)	Unacceptable	
792	179	85	Positive	Cw6(8735) A1(16557) Cw17(6522)	Positive	DQ2(8343)	Unacceptable	
1426	179	85	Positive	Cw6(9105) A1(16232) Cw17(7437)	Positive	DQ2(9037)	Unacceptable	
1461	179	17	Positive	Cw6(2758) A1(4621) Cw17(1943)	Positive	DQ2(9194)	Unacceptable	
2400	179	85	Positive	Cw6(8105) A1(15197) Cw17(7937)	Positive	DQ2(8991)	Unacceptable	
3224	179	85.19%	Positive	Cw6(6160) A1(12637) Cw17(5792)	Positive	DQ2(19759)	Unacceptable	
3632	179	87	Positive	Cw6(9004) A1(15900) Cw17(7913)	Positive	DQ2(11767)	Unacceptable	DSA'S to A1 (MFI = 15900), Cw6 (MFI = 9004) and DSA to Cw17 (MFI = 7913). Do not recommend move forward. FXM most likely Positive. DSA to DQ2 (MFI = 11767). Do not recommend move forward. FXM most likely Positive.
3753	179	85	Positive	Cw6(8313) A1(17403)	Positive	DQ2(13813)	Unacceptable	
3808	179		Positive	Cw6(2498) A1(4346) Cw17(2474)	Positive	DQ2(9402)	Unacceptable	
3966	179	85%	Positive	Cw6(9353) A1(17774) Cw17(8177)	Positive	DQ2(12998)	Unacceptable	Unacceptable
8001	179	85	Positive	Cw6(8039) A1(16144) Cw17(5817)	Positive	DQ2(7947)	Unacceptable	
8029	179	17	Positive	Cw6(5786) A1(9800) Cw17(5330)	Positive	DR52(2883) DQ2(17010) DPw3(2481) DPw5(2551)	Unacceptable	-
8050	179	85.213	Positive	A1(18668) Cw17(12140)	Positive	DQ2(19688)	Unacceptable	
8080	179	85	Positive	Cw6(7676) A1(13416) Cw17(7879)	Positive	DQ2(8659)	Unacceptable	
8083	179	85.21	Positive	A1(21403) Cw17(11687)	Positive	DQ2(17101) DQA1*05(17101)	Unacceptable	Also class I DSA
8103	179	18	Positive	Cw6(3899) A11(7745) A66(5962) A1(7237) A25(6526) A26(5793) A34(6517) A36(6825) A43(5558) A80(6166) B73(10207) Cw7(12354) Cw16(1900) Cw17(5259) Cw18(5844) A1101(7529) A1102(7745) A6601(5962)	Borderline	DQ2(4225) DQA1*05(11024)	Unacceptable	high MFI (class I). Low MFI (class II).
8111	179	83	Positive	Cw6(8450) A1(17100) Cw17(7500)	Positive	DQ2(24000)	Unacceptable	

**Table 26. Individual Virtual crossmatch results for Serum #179 vs Donor# V3**

Donor #V3 HLA A\*11:01-A\*23:01:01G-B\*15:01-B\*44:03-C\*01:02:01G-C\*16:01-DRB1\*04:04-DRB1\*11:01-DRB3\*02:02:01G-DRB4\*01:01:01G-DQA1\*03:01-DQA1\*05:01:01G-DQB1\*03:01-DQB1\*03:02-DPA1\*02:01:01-DPA1\*02:02:02-DPB1\*04:01

Ctr	Patient	% CPRA	Virtual T Cell Prediction	Class I DSA(MFI)	Virtual B-cell prediction	Class II DSA(MFI)	Risk Assessment	Comments
230	179	20	Positive	A11(17470)	Positive	DQA1*05(26671)	Unacceptable	
792	179	85	Positive	A11(16287) Cw16(2770)	Positive	No class II DSA	Unacceptable	
1426	179	85	Positive	A11(15986) Cw16(2635)	Positive	No class II DSA	Unacceptable	
1461	179	17	Positive	A11(5847)	Positive	DR4(618)	Unacceptable	
2400	179	85	Positive	A11(15595) Cw16(2572)	Positive	No class II DSA	Unacceptable	Due to Class I DSA
3224	179	85.19%	Positive	A11(13348) Cw16(1909)	Positive	No class II DSA	Unacceptable	CLASS 1 Unacceptable Present
3632	179	87	Positive	A11(16448) Cw16(3469)	Positive	No class II DSA	Unacceptable	DSA'S to A11 (MFI: 16448) and Cw16 (MFI: 3469). Do not recommend move forward. FXM most likely Positive. B cell VXM positive due to Class 1 DSA's.
3753	179	85	Positive	A11(17007) Cw16(2868)	Positive	DQ2(13813)	Unacceptable	
3808	179		Positive	A11(6259)	Positive	DR4(963)	Unacceptable	
3966	179	85%	Positive	A11(18449) Cw16(2874)	Positive	DQA1*05(20411)	Unacceptable	
8001	179	85	Positive	A11(16628) Cw16(2210)	Positive	No class II DSA	Unacceptable	DSA to DQA1*05:01 (MFI=22326) cannot be ruled out due to DQB* overlap
8029	179	17	Positive	A11(11580)	Positive	DR4(4703) DQ2(15212) DPw5(2551)	Unacceptable	-
8050	179	85.213	Positive	A11(18574) Cw16(3917)	Positive	No class II DSA	Unacceptable	
8080	179	85	Positive	A11(13620) Cw16(2333)	Positive	No class II DSA	Unacceptable	Patient has Class I DSA
8083	179	85.21	Positive	A11(21914) Cw16(4497)	Positive	No class II DSA	Unacceptable	DSA to class I antibodies
8103	179	18	Positive	Cw6(3899) A11(7745) A66(5962) A1(7237) A25(6526) A26(5793) A34(6517) A36(6825) A43(5558) A80(6166) B73(10207) Cw7(12354) Cw16(1900) Cw17(5259) Cw18(5844) A1101(7529) A1102(7745) A6601(5962)	Positive	DQ2(4225) DQA1*05(11024)	Unacceptable	high MFI
8111	179	83	Positive	Cw16(2500) A1101(17500)	Positive	No class II DSA	Unacceptable	due to Class I

**Table 27. Individual Virtual crossmatch results for Serum #180 vs Donor# V1**

Donor #V1 HLA A\*11:01:01-A\*66:01:01-B\*41:02:01-B\*44:02:01-C\*05:01:01-C\*17:03:01-DRB1\*08:01:01-DRB1\*13:03:01-DRB3\*01:01:02-DQA1\*04:02-DQA1\*05:05-DQB1\*03:01:01G-DQB1\*04:02:01-DPA1\*01:03-DPB1\*04:01:01G-DPB1\*06:01:01G

Ctr	Patient	% CPRA	Virtual T Cell Prediction	class I DSA(MFI)	Virtual B-cell Prediction	Class II DSA(MFI)	Risk Assessment	Comments
230	180	40	Negative	No class I DSA	Positive	DR6(13436) DQ7(20612) DPA1*05(21997)	Unacceptable	
792	180	91	Negative	No class I DSA	Positive	DQ7(14423) DPw6(6582)	Unacceptable	
1426	180	98	Negative	No class I DSA	Positive	DQ7(14003) DPw6(6785)	Unacceptable	
1461	180	4	Negative	No class I DSA	Positive	DQ7(3749) DPw6(2393)	Unacceptable	
2400	180	81	Negative	No class I DSA	Positive	DQ7(12826) DPw6(5871)	Unacceptable	Unacceptable due to positive B Cell crossmatch
3224	180	94.45%	Negative	No class I DSA	Positive	DQ7(13842) DPw6(6110) DQA1*05(13842)	Unacceptable	CLASS 2 Unacceptable Present
3632	180	85	Negative	No class I DSA	Positive	DQ7(16754) DPw6(6502)	Unacceptable	VXM positive due to Class II DSA's. DSA'S to DQ7 (MFI= 16754), DP6 (MFI= 6502). Do not recommend move forward. FXM most likely Positive.
3753	180	89	Negative	No class I DSA	Positive	DQ8(12497) DPw6(6763)	Unacceptable	
3808	180		Negative	No class I DSA	Positive	DQ7(6871) DPw6(4645)	Unacceptable	Unacceptable due to Class II DSA
3966	180	100%	Negative	No class I DSA	Positive	DQ7(15356) DPw6(8020) DPA1*01(3039) DQA1*05(18053)	Unacceptable	
8001	180	96	Negative	No class I DSA	Positive	DQ7(17238) DPw6(7487)	Unacceptable	DSA to B*41:02 and C*17:03 cannot be ruled out as they are not represented on our LSAB panel. DSA to DQA1*05:05(MFI=17771) could not be ruled out due to DQB* overlap. DSA to DQA1*04:02 could not be ruled out as it is not represented on our LSAB panel.
8029	180	17	Negative	No class I DSA	Positive	DQ7(9373) DPw3(7102) DPw6(6893)	Unacceptable	-
8050	180	75.989	Negative	No class I DSA	Positive	DQ7(17605) DPw6(8886)		
8080	180	81	Negative	No class I DSA	Positive	DQA1*05(3315)	Unacceptable	
8083	180	80.77	Negative	No class I DSA	Positive	DQ7(13667) DPw6(6253)	Unacceptable	Patient has Class II DSA
8103	180	5	Negative	A24(5547) B53(870) A23(5047) B35(1220) A2403(2429)	Positive	DQ7(20744) DPw6(10161) DQA1*05(20744)	Unacceptable	DSA to Class II antibodies
8111	180	65	Negative	No class I DSA	Negative	DQ3(5448) DQ7(5129) DQ8(4735) DQ9(4572) DPw3(1644) DPw6(1648) DP9(1757) DP17(1450) DP14(1559) DP20(1575) DQA1*03(4735) DQA1*05(5448) DQA1*06(5129)	Acceptable	Low MFI
					Positive	DQ7(18100) DPw6(8950) DQA1*05(19100)	Unacceptable	Overall unacceptable due to Class II

**Table 28. Individual Virtual crossmatch results for Serum #180 vs Donor# V2**

Donor #V2 HLA A\*01:01:01-A\*23:01:01-B\*42:01:01-B\*50:01:01-C\*06:02:01-C\*17:01:01-DRB1\*03:02:01-DRB1\*07:01:01-DRB3\*01:01:02-DRB4\*01:03:01-DQA1\*02:01:01-DQA1\*04:01:01-DQB1\*02:02-DQB1\*04:02:01-DPA1\*01:03:01-DPA1\*02:01:01-DPB1\*01:01:02-DPB1\*04:02:01

Ctr	Patient	% CPRA	Virtual T Cell Prediction	class I DSA(MFI)	Virtual B-cell Prediction	Class II DSA(MFI)	Risk Assessment	Comments
230	180	40	Positive	A23(22206)	Positive	No class II DSA	Unacceptable	Due to Class I ab
792	180	91	Positive	A23(10926)	Positive	No class II DSA	Unacceptable	
1426	180	98	Positive	A23(14970)	Positive	DPw1(1251) DPw4(1528)	Unacceptable	
1461	180	4	Positive	A23(4723)	Positive	DPw4(683)	Unacceptable	
2400	180	81	Positive	A23(16550)	Positive	DPw4(1139)	Unacceptable	Due to Class I DSA
3224	180	94.45%	Positive	A23(12764)	Positive	DP402(998)	Unacceptable	CLASS 1 Unacceptable Present
								DSA to A23 (MFI = 12569). Do not recommend move forward. FXM most likely Positive. B cell VXM positive due to Class 1 and 2 DSA's.
3632	180	85	Positive	A23(12569)	Positive	DP402(2064)	Unacceptable	
3753	180	89	Positive	A23(16471)	Positive	No class II DSA	Unacceptable	
3808	180		Positive	A23(6175)	Positive	DP402(1149)	Unacceptable	Class I DSA & repeat mismatch. DPB1*04:02 Class II DSA and repeat mismatch
					Positive	DPw4(1344) DPA1*01(3039) DPA1*02(6530)	Unacceptable	Unacceptable
3966	180	100%	Positive	A23(15216)	Positive	DP402(1527) DQA1*04(742)	Unacceptable	
8001	180	96	Positive	A23(14345)		DQ8(10353) DQ9(7536) DPw3(7102) DPw4(2458)		
8029	180	17	Positive	A23(8474)	Positive	DP9(6335)	Unacceptable	-
8050	180	75.989	Positive	A23(17353)	Positive	DPw1(1478) DP402(1571)	Unacceptable	
8080	180	81	Positive	A23(12119)	Positive	No class II DSA	Unacceptable	Patient has Class I DSA
8083	180	80.77	Positive	A23(17376)	Positive	No class II DSA	Unacceptable	DSA to class I antibodies
				A24(5547) B53(870) A23(5047) B35(1220) A2403(2429)	Negative	DPw3(1644) DPw6(1648) DP9(1757) DP17(1450) DP14(1559) DP20(1575) DQA1*03(4735) DQA1*05(5448) DQA1*06(5129)	Unacceptable	high MFI (class I). Low MFI (class II).
8103	180	5	Positive	A23(17300)	Positive	DPw1(1500) DPw4(1900)	Unacceptable	
8111	180	65	Positive	A23(17300)				

**Table 29. Individual Virtual crossmatch results for Serum #180 vs Donor# V3**

Donor #V3 HLA A\*11:01-A\*23:01:01G-B\*15:01-B\*44:03-C\*01:02:01G-C\*16:01-DRB1\*04:04-DRB1\*11:01-DRB3\*02:02:01G-DRB4\*01:01:01G-DQA1\*03:01-DQA1\*05:01:01G-DQB1\*03:01-DQB1\*03:02-DPA1\*02:01:01-DPA1\*02:02:02-DPB1\*04:01

Ctr	Patient	% CPRA	Virtual T Cell Prediction	class I DSA(MFI)	Virtual B-cell Prediction	Class II DSA(MFI)	Risk Assessment	Comments
230	180	40	Positive	A23(22206)	Positive	DQ7(20612) DQ8(20141) DQA1*05(5178)	Unacceptable	
792	180	91	Positive	A23(10926)	Positive	DQ7(14423) DQ8(13099)	Unacceptable	Possible DQA1*05:01 (2117)
1426	180	98	Positive	A23(14970)	Positive	DR11(1377) DQ7(11299) DQ8(9971)	Unacceptable	
1461	180	4	Positive	A23(4723)	Positive	DQ7(3749) DQ8(4217)	Unacceptable	
2400	180	81	Positive	A23(16550)	Positive	DQ7(12826) DQ8(11251) DQA1*05(1228)	Unacceptable	
3224	180	94.45%	Positive	A23(12764)	Positive	DR11(1025) DQ7(13842) DQ8(11743) DQA1*05(13842)	Unacceptable	
3632	180	85	Positive	A23(12569)	Positive	DR11(1763) DQ7(15756) DQ8(10915)	Unacceptable	DSA to A23 (MFI: 12569). Do not recommend move forward. FXM most likely Positive. DSA'S to DQ7 (MFI: 15756); DQ8 (MFI: 10915); DR11 (MFI: 1763). Do not recommend move forward. FXM most likely Positive.
3753	180	89	Positive	A23(16471)	Positive	DR11(1226) DQ7(14308) DQ8(12497) DQA1*05(1889)	Unacceptable	
3808	180		Positive	A23(6175)	Positive	DR11(1020) DQ7(6871) DQ8(8087)	Unacceptable	Class I DSA & repeat mismatch
3966	180	100%	Positive	A23(15216)	Positive	DR11(1382) DQ7(15356) DQ8(12871) DPA1*02(6530) DQA1*03(12664) DQA1*05(3403)	Unacceptable	Unacceptable
8001	180	96	Positive	A23(14345)	Positive	DR11(1402) DQ7(17238) DQ8(15525) DQA1*05(2297)	Unacceptable	
8029	180	17	Positive	A23(8474)	Positive	DR11(2090) DQ7(9373) DQ8(10782) DPw4(2458) DP9(6335) DP28(1938)	Unacceptable	-
8050	180	75.989	Positive	A23(17353)	Positive	DR11(1592) DQ7(17605) DQ8(15447) DQA1*05(3315)	Unacceptable	
8080	180	81	Positive	A23(12119)	Positive	DQ7(13667) DQ8(9997)	Unacceptable	
8083	180	80.77	Positive	A23(17376)	Positive	DQ7(20744) DQ8(14082) DQA1*03(14082) DQA1*05(20744)	Unacceptable	Also Class I antibodies

**Table 29. Individual Virtual crossmatch results for Serum #180 vs Donor# V3, cont.**

Ctr	Patient	% CPRA	Virtual T Cell Prediction	class I DSA(MFI)		Virtual B-cell Prediction	Class II DSA(MFI)	Risk Assessment	Comments
8103	180	5	Positive	A24(5547) B53(870) A23(5047) B35(1220) A2403(2429)	Borderline	DQ3(5448) DQ7(5129) DQ8(4735) DQ9(4572) DPw3(1644) DPw6(1648) DP9(1757) DP17(1450) DP14(1559) DP20(1575) DQA1*03(4735) DQA1*05(5448) DQA1*06(5129)	Unacceptable	High MFI (class I). Low MFI (class II).	
8111	180	65	Positive	A23(17300)	Positive	DR11(1800) DQ7(18100) DQ8(16500) DQA1*05(3000)	Unacceptable		

**Table 30: Individual Cutoff values and Pretreatment - Exchange 30**

Ctr	Locus	Pos Cutoff Value	Locus	Pos Cutoff Value	Manufacturer	Kit type	Sera pretreatment
230	A	4000	DRB1	4000	One Lambda	Single Antigen/ExPlex	None
	B	4000	DRB3/4/5	4000			
	C	10000	DQA1	4000			
	Class I		DQB1	4000			
			DPB1	10000			
			Class II				
615	A		DRB1		One Lambda	LabScreen Single Antigen	EDTA
	B		DRB3/4/5				
	C		DQA1				
	Class I	500	DQB1				
			DPB1				
			Class II	500			
792	A	1500	DRB1	1500	One Lambda	LabScreen Single Antigen	FBS/EDTA
	B	1500	DRB3/4/5	1500			
	C	1500	DQA1	1500			
	Class I	1500	DQB1	1500			
			DPB1	1500			
			Class II	1500			
1426	A	1000	DRB1	1000	One Lambda	LabScreen Single Antigen	DTBA
	B	1000	DRB3/4/5	1000			
	C	1000	DQA1	1000			
	Class I	1000	DQB1	1000			
			DPB1	1000			
			Class II	1000			
3224	A	1000	DRB1	1000	One Lambda	LabScreen Single Antigen	EDTA
	B	1000	DRB3/4/5	1000			
	C	1000	DQA1	1000			
	Class I	1000	DQB1	1000			
			DPB1	1000			
			Class II	1000			
3632	A	2000	DRB1	2000	One Lambda	LabScreen Single Antigen	EDTA
	B	2000	DRB3/4/5	2000			
	C	2000	DQA1	2000			
	Class I		DQB1	2000			
			DPB1	2000			
			Class II				
3753	A	1000	DRB1	1000	One Lambda	LabScreen Single Antigen	DTT
	B	1000	DRB3/4/5	1000			
	C	2000	DQA1	1000			
	Class I	1000	DQB1	1000			
			DPB1	2000			
			Class II	1000			
3808	A		DRB1		Immucor	Single Antigen (LSA)	None
	B		DRB3/4/5				
	C		DQA1				
	Class I	750	DQB1				
			DPB1				
			Class II	750			

**Table 30: Individual Cutoff values and Pretreatment - Exchange 30**

Ctr	Locus	Pos Cutoff Value	Locus	Pos Cutoff Value	Manufacturer	Kit type	Sera pretreatment
5214	A	2000	DRB1	2000		LabScreen Single Antigen	FCS+EDTA
	B	2000	DRB3/4/5	2000			
	C	2000	DQA1	2000			
	Class I	2000	DQB1	2000			
			DPB1	2000			
			Class II	2000			
8001	A		DRB1		One Lambda	LabScreen Single Antigen	EDTA
	B		DRB3/4/5				
	C		DQA1				
	Class I	1000	DQB1				
			DPB1				
			Class II	1000			
8029	A	500	DRB1	500	LIFECODES	Single Antigen (LSA)	EDTA
	B	500	DRB3/4/5	500			
	C	500	DQA1	500			
	Class I	38	DQB1	500			
			DPB1	500			
			Class II	19			
8050	A	1000	DRB1	1000	One Lambda	LabScreen Single Antigen	DTT
	B	1000	DRB3/4/5	1000			
	C	1000	DQA1	1000			
	Class I	1000	DQB1	1000			
			DPB1	1000			
			Class II	1000			
8083	A		DRB1		One Lambda	LabScreen Single Antigen	EDTA
	B		DRB3/4/5				
	C		DQA1				
	Class I	2000	DQB1				
			DPB1				
			Class II	2000			
8103	A	500	DRB1	500	One Lambda	LabScreen Single Antigen	DTT
	B	500	DRB3/4/5	500			
	C	500	DQA1	500			
	Class I		DQB1	500			
			DPB1	500			
			Class II				
8111	A	1000	DRB1	1000	One Lambda	LabScreen Single Antigen	EDTA
	B	1000	DRB3/4/5	1000			
	C	1000	DQA1	1000			
	Class I	1000	DQB1	1000			
			DPB1	1000			
			Class II	1000			