

# Report of the 11<sup>th</sup> Flow and Virtual Crossmatch Exchange August 11, 2017

Cells	<b>61-62</b>
Serum	<b>63-66</b>

For the 11<sup>th</sup> Flow and Virtual Crossmatch Exchange, Serum (patient) MX-059 and virtual donor V1 from Flow Crossmatch Exchange 10 (February, 2017) were re-examined as serum 63 and cell 61. A comparison of virtual crossmatch (VXM) predictions (MX-059 vs. V1) against actual flow crossmatch (FXM) outcome (**serum 63 vs. cell 61**) are summarized in part 1

of this report. Part 2 summarizes the flow crossmatch results for 2 cells (**cell nos. 61 - 62**) against 4 sera (**serum nos. 63 - 66**), and examines the single antigen data for the 4 sera. Finally, in part 3, the virtual crossmatch predictions for 4 potential donors (V1 - V4) against 2 sera (serum 65 and serum 66) are examined.

## Part 1

### Actual Flow Cytometric Crossmatch vs. Virtual Crossmatch

A direct comparison of virtual crossmatch (VXM) predictions and actual FXM results for cell 61 (V1) against serum 63 (MX-059) are summarized in the tables below. Of the 20 labs reporting VXM predictions in exchange 10, 17 reported back actual T-cell FXM results and 16 reported back actual B-cell FXM results (Table 1a). For the T-cell crossmatch, 13 of the 18 labs predicting the VXM to be positive, reported the actual FXM as positive in

agreement with predictions (Table 1b). Among the remaining 5 labs, 3 did not report back results and 2 reported the FXM as negative, despite the presence of class I DSA (B18, Bw6). Two labs predicting the T-cell crossmatch to be negative in Exchange 10, reported the actual crossmatch as positive.

For the B-cell crossmatch, better agreement was observed among labs

**Table 1a. Summary of Actual Flow crossmatch results vs. Virtual Crossmatch predictions - Direct comparison**

Exchange 011					Exchange 010				
Actual Flow Crossmatch - Serum 63 vs. Cell 61					Virtual Crossmatch - Patient MX-059 vs. Donor V1				
Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results	Donor	Serum no.	#Labs	T-cell Prediction	B-cell Prediction
61	63	20	POS(15) NEG(2) NT(3)	POS(12) NEG(4) NT(4)	V1	59	20	POS(18) NEG(2)	POS(11) NEG(9)
< 80% agreement									

**Table 1b. Direct comparison of Actual crossmatch results vs. Virtual crossmatch results**

		T-cell Virtual XM (Exchange 10)			B-cell Virtual XM (Exchange 10)		
		+	-	∅	+	-	∅
Actual Flow XM (Exchange 11)	+	13	2	0	7	5	0
	-	2	0	0	3	1	0
	∅	3	0	0	1	3	0

+ = positive  
- = negative      ∅ = uncertain/not typed

n = number of labs

for the actual B-cell crossmatch than for B-cell predictions. However, agreement was still less than 80% among labs for the FXM. Seven of the 11 labs predicting the crossmatch to be positive, reported the actual B-cell FXM as positive in agreement with predictions, while 5/9 labs predicting the crossmatch to be negative, reported the actual FXM as positive.

A side by side comparison of actual FXM crossmatch results with virtual predictions for individual labs is shown in Table 1c. In Exchange 10, anti-B18 reactivity was reported against donor V1, with median MFI = 7409.

Additional reactivity to Bw6 (9262) was also reported by several labs. In Exchange 11, anti-B18 (7924) and -Bw6 (9561) reactivity was reported once again, with more labs (n=8) reporting reactivity to Bw6 the second time around. No class II DSA were detected in either study. The variability observed in the virtual B-cell crossmatch and the actual B-cell flow crossmatch may be due to a combination of factors, such as, the absence of class II DSA and by the presence of Bw6 antibodies.

**Table 1c. Individual Actual Flow crossmatch results vs. Virtual crossmatch results - Direct Comparison**

Exchange 011					Exchange 010				
Actual Flow Crossmatch - Serum 63 vs. Cell 61					Virtual Crossmatch - Patient MX-059 vs. Donor V1				
Center	T-Cell RESULT	Class I DSA(MFI)	B-Cell RESULT	Class II DSA(MFI)	Center	Virtual T-cell Prediction	Class I DSA (MFI)	Virtual B-cell Prediction	Class II DSA (MFI)
23	Positive	B18(7924), Bw6(8122)	Negative	No DSA	23	Positive	B18 (9245) Bw6 (9005)	Positive	None
54	Negative	B18(10515)	Positive	No DSA	54	Positive	B18 (9440)	Negative	None
206	Positive	B18(8065)	Positive	No DSA	206	Positive	B18 (8815)	Positive	None
230	Positive	Bw6(10182)	Positive	No DSA	230	Positive	B18 (7590)	Negative	None
774	Positive	B18(8064)	Positive	No DSA	774	Positive	B18 (7399)	Negative	None
792	Positive	B18(7168)	Positive	No DSA	792	Positive	B18 (7335)	Positive	None
836	NT	B18(8427), Bw6(19557)	NT	No DSA	836	Positive	B27 (9729) B18 (7992)	Positive	None
1160	Positive	B18(9298), Bw6(19173)	Positive	No DSA	1160	Positive	B18 (7175)	Positive	None
1461	NT		NT		1461	Positive	B18(2320)	Negative	None
2400	Positive	B18(7040)	Negative	No DSA	2400	Negative	B18 (7152)	Negative	None
3224	Positive	B18(9351)	Positive	No DSA	3224	Positive	B18 (10742)	Positive	None
3753	Positive	B18(4637), Bw6(6819)	Positive	No DSA	3753	Positive	B18 (6557)	Positive	None
3966	NT		NT		3966	Positive	B18 (9860), B27(10139)	Negative	None
4661	Positive	B18(1567)	Positive	No DSA	4661	Positive	B18 (1142)	Positive	None
5219	Positive	NT	Positive	NT	5219	Positive	B18 (2376)	Negative	None
8001	Positive	B18(9408), Bw6(19543)	Positive	No DSA	8001	Positive	B18 (9725)	Positive	None
8050	Positive	B18(7905), Bw6(8940)	Negative	No DSA	8050	Positive	B18 (8550) Bw6 (9518)	Positive	None
8083	Negative	B18(6423)	Negative	No DSA	8083	Positive	B18 (7409)	Positive	None
8096	Positive	No DSA	NT	No DSA	8096	Negative	None	Negative	None
8103	Positive	B18(1386), Bw6(5507)	Positive	No DSA	8103	Positive	B18 (1524) Bw6 (5917)	Negative	None

## Part 2

# Flow Cytometric Crossmatch

Flow cytometric crossmatch results for cell 61 and cell 62 against sera sample nos. 63 - 66 are summarized in Table 2. Individual results for each

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

**Cell 61.** The genotype for this sample from a donor of mixed ethnicity (Black/Caucasian) is A\*11:01-A\*26:01-B\*18:01:01G-B\*27:05:02G-C\*06:08-C\*07:01:01G/DRB1\*03:02-DRB1\*13:01-DRB3\*01:01:02G-DRB3\*02:02:01G-DQB1\*04:02-DQB1\*06:03-DPB1\*01:01-DPB1\*03:01. Overall, good agreement (>80%) was achieved for the T-cell crossmatch for cell 61 against all 4 sera, with the crossmatches against serum 63, 65, and 66 being reported as positive and the crossmatch against serum 64 reported as negative. Less agreement was observed for the B-cell crossmatch, as only 1 was reported with good agreement (cell 61 vs. serum 65). Against serum 63, 14 labs reported the B-cell crossmatch as positive, while 5 reported it as negative. Against serum 64, 14/18 labs reported the crossmatch a negative, with 1 lab noting it as borderline negative. For the last crossmatch pair (cell 61 vs. serum 66), 15 labs reported the B-cell crossmatch as positive and 4 reported it as negative.

**Cell 62.** The genotype for this sample from a donor of Vietnamese descent is A\*01:01-A\*29:01-B\*07:05:01G-B\*57:01-C\*06:02:01G-C\*15:05:01G-DRB1\*07:01-DRB1\*14:05-DRB3\*02:02:01G-DRB4\*01:03-DQB1\*03:03-DPB1\*05:01:01G. For the T-cell crossmatch, good agreement (>80%) was achieved among labs for cell 62 against all 4 samples, as the crossmatch against serum 63, 65, and 66 were reported as positive and the crossmatch against serum 64 was reported as negative. The B-cell crossmatch for this cell against all 4 sera was reported as positive. Three of the crossmatch pairs (cell 62 vs. serum 64-66) were reported with >80% agreement. For the B-cell crossmatch against serum 63, agreement among labs was < 80%, as 15 labs reported the crossmatch as positive, while 4 reported it as negative. Among the 4 labs reporting the crossmatch as negative, 1 indicated the cells were pronase treated.

**Table 2. Summary of Flow crossmatch results for Cell #061-#062 vs. Serum #063-#066**

Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results	Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results
61	63	21	POS(19) NEG(2)	POS(14) NEG(5) NT(2)	62	63	21	POS(20) NEG(1)	POS(15) NEG(4) NT(2)
61	64	21	NEG(19) POS(2)	NEG(14) POS(4) NT(3)	62	64	21	NEG(18) POS(3)	POS(17) NEG(2) NT(2)
61	65	21	POS(18) NEG(3)	POS(17) NEG(2) NT(2)	62	65	21	POS(18) NEG(3)	POS(18) NEG(1) NT(2)
61	66	21	POS(19) NEG(2)	POS(15) NEG(4) NT(2)	62	66	21	POS(20) NEG(1)	POS(16) NEG(3) NT(2)
<b>&lt; 80% consensus</b>									

# Antibody Identification

Class I and class II Luminex single antigen results for serum samples 63 - 66 are summarized in Tables 12 - 15 and individual results for each

participating laboratory are listed in Tables 16 –23. Potential DSA reported are based on single antigen results reported by labs.

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**Serum 63** was previously examined as serum 59 (Exchange 10). In this present study, anti-B18 (7924) and -Bw6 (9561) reactivity was reported against cell 61 (donor V1 from Exchange 10). Interestingly, twice as many labs (n=8) reported reactivity to Bw6 in this present study, compared to Exchange 10. Against cell 62, only a single DSA was reported (B7), with median MFI = 8895. No class II DSA were reported against either cell, as this serum was reported as negative for class II antibodies.

For **serum 64**, no class I or class II DSA were reported against cell 61. Meanwhile against cell 62, only 4 out of 18 labs reported anti-B7 reactivity, as the median MFI value across the 4 labs was only 1094. For class II, multiple DSA of various strengths were reported against cell 62, with labs reporting anti-DR53 and -DR7 reactivity, with respective MFI = 4106 and 5765. DR14 reactivity (8829) was reported by 13 labs, with 1 lab reporting allele specific DRB1\*14:02 (6186) reactivity. However, DR14 is not a DSA against cell 62, as further testing by supplemental bead showed DRB1\*14:02 is not cross-reactive with DRB1\*14:05, which cell 62 carries.

**Serum 65** was reported as positive for class I DSA against cell 61 and cell 62. Anti-B27 (3095) reactivity was reported against cell 61, with MFI = 3095. Against cell 62, labs reported anti-B57 (5574) reactivity. For class II, no DSA were reported against cell 61. Against cell 62, all 19 labs detected strong reactivity to DR53 (12509). Additional weak anti-DR14 reactivity (2792) was reported by 15 labs, with 1 lab reporting allele specific reactivity to DRB1\*14:01 (2053). Further testing by supplemental single antigen bead showed DRB1\*14:01 cross-reactivity with DRB1\*14:05, suggesting the anti-DR14 reactivity in this sample is a DSA against cell 62.

For **serum 66**, strong anti-B27 (8642) and Cw7 (12144) reactivity was reported against cell 61. Additional weak reactivity to Cw6 (2309) and A11 (2143) was also reported by some labs. Against cell 62, strong reactivity to B7 (12374), along with weak anti-Cw15 (3442) and -Cw6 (2309) reactivity was reported by labs. For class II, several labs did not detect class II antibodies in this sample. Among the 5 who did, 2 reported weak anti-DP5 (1267) reactivity against cell 62.

## Flow crossmatch and Antibody identification - Conclusion:

For the **T-cell flow crossmatch**, good agreement (>80%) was achieved for all 8 crossmatch pairs. For serum 63 and serum 66, the presence of multiple or strong class I DSA against cells 61 and 62, resulted in good agreement among labs in the reporting of flow crossmatch results. However, for serum 65 against each cell, less agreement was observed, as weak anti-B27 (2843±1321) reactivity was reported against cell 61 and weak anti-B57 (5384±1951) reactivity was reported against cell 62. This suggests the sensitivity of the T-Flow crossmatch is variable when the DSA strength is weak.

For the **B-cell flow crossmatch**, good agreement was observed for only half of the crossmatch pairs. Among the 4 pairs that did not achieve good agreement, the crossmatches against cell 61 accounting for 3 of them. For serum 63 against cell 61, all 18 labs reported anti-B18 (7924) reactivity against cell 61. In addition, 8/18 also reported additional anti-Bw6 (12230)

reactivity. No class II DSA were detected. For serum 66 against cell 61, a similar pattern was observed, in which anti-B27 (8642), -Cw7 (12144), and -Cw6 (2309) reactivity was reported, while no class II DSA were present. For each of these 2 crossmatch pairs, it would seem the presence of multiple class I DSA would result in a positive B-cell crossmatch, however, this was not the case, as some labs reported the crossmatch for the 2 pairs as negative. For the 3rd crossmatch pair, (serum 64 vs. cell 61), 4/14 labs reported the B-cell crossmatch as positive, despite the absence of class I or class II DSA. The presence of non-HLA antibodies in serum 64 is suspected. Finally, for serum 63 against cell 62, 4/15 labs reported it as negative, as no class II DSA were detected, only a single class I DSA (B7) of moderate strength (MFI = 7994±2804). This suggests the sensitivity of the B-cell crossmatch is variable when a single class I DSA of moderate strength (< 8000) is present and there is no class II DSA.

## Part 3

# Virtual Crossmatch Paper Challenge

Virtual crossmatch predictions for donor V1 - V4 against sera (patient) samples 65 and 66 are summarized in Table 3 and individual laboratory

predictions are listed in Tables 24 - 31. Fictional donor histories precede each patient-donor summary.

For the virtual **T-cell crossmatch**, good agreement (< 80%) was achieved for 6 out of 8 patient-donor pairs. In the case of the positive predictions, good agreement was achieved in the presence of moderate to strong DSA, with MFI values for peak class I DSA ranging from 7400 - 9000. For serum 65 vs. donor V3 and serum 66 vs. donor V2, all but 2 labs predicted the crossmatch to be negative in the absence of class I DSA. For the remaining crossmatch pairs (serum 65 vs. donor V2 and serum 66 vs. donor V3) no agreement was achieved. In the case of serum 65 vs. donor V2, 13 labs predicted the crossmatch to be positive, 5 predicted it to be negative, and 2 predicted borderline results. Weak anti-B44 (2518) reactivity was reported, along with anti-Bw4 (5740) reactivity. Finally for serum 66 vs. donor V3, 15 labs predicted the crossmatch to be positive as anti-Cw7 (12144) reactivity was reported. Five labs predicted the crossmatch to be negative, with 1 lab noting no class I DSA were present.

For the virtual **B-cell crossmatch**, good agreement was achieved for 5 out of 8 patient donor pairs. Among the 5 pairs, 3 (serum 65 vs. donors V1, V3 and V4) were predicted to be positive in complete agreement, as strong anti-DR53 (12509) reactivity was reported in each case. For serum 65 against donor V2, 16 labs predicted it to be positive, 2 predicted borderline results, and 1 predicted it to be negative, as weak class I DSA (B44) and weak to moderate class II DSA (DR1, DP2) were reported, with respective MFI = 2518, 2474, 8187. For serum 66 against donor V2, all but 1 lab predicted it to be negative, as the majority of labs did not detect either class I or class II DSA. Finally, for the crossmatch pairs in which no consensus was achieved (serum 66 against donors V1, V3, and V4), predictions were widely variable among labs. In each case, no class II DSA were detected, only class I DSA, with median MFI values ranging from 8600 to 1300.

**Table 3. Summary of Virtual Crossmatch Exchange #011 results (Serum #059-#60 versus Donor V1 - V4)**

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	65	21	POS(15) NEG(3) Borderline(2) NP(1)	POS(21)	Acceptable(1) Unacceptable(20)	V2	65	20	POS(13) NEG(5) Boderline(2)	POS(16) NEG(1) Borderline(2) NP(1)	Acceptable(3) Unacceptable(16) Other(1)
V1	66	21	POS(18) NEG(1) Borderline(1) NP(1)	POS(10) NEG(10) Borderline(1)	Acceptable(2) Unacceptable(18) NP(1)	V2	66	20	POS(2) NEG(17) Borderline(1)	POS(1) NEG(19)	Acceptable(18) Unacceptable(2)
V3	65	20	POS(2) NEG(17) NP(1)	POS(20)	Acceptable(2) Unacceptable(18)	V4	65	20	POS(19) Borderline(1)	POS(20)	Acceptable(1) Unacceptable(19)
V3	66	20	POS(15) NEG(5)	POS(8) NEG(12)	Acceptable(5) Unacceptable(15)	V4	66	20	POS(20)	POS(10) NEG(10)	Unacceptable(20)

<80% agreement  
NP = not predicted

Overall, good agreement was achieved in virtual crossmatch predictions in the presence of strong class I and class II DSA (MFI > 10,000), as well as in the presence of multiple DSA of moderate strength. In turn, when antibody strength was weak (< 5000) greater variability was observed among labs with respect to virtual crossmatch predictions. Interestingly, variability was also observed among lab predictions when the DSA reported was at the C- or DP-locus even when DSA strength was strong > 10,000, suggesting the variability observed in the virtual crossmatch is influenced by many factors, not just simply antibody strength.

Predicted renal transplant risk assessments were reported by all labs submitting virtual predictions. Seven out of 8 assessments were reported with good agreement among labs. Predicted risk was reported as unac-

ceptable when T-cell and or B-cell predictions were reported as positive. However, when T-cell predictions were variable among labs, variability in predicted risk assessments was also observed. For serum 66 against donor V3, 15 labs assessed the risk as unacceptable, while 5 assessed it to be acceptable in line with T-cell predictions.

A number of labs (n=16) reported cPRA values (Calculated Panel Reactive Antibodies), for the sera tested. The mean cPRA value for serum 65 was 94%, as this serum was positive for class I and class II antibodies. However, for serum 66, the mean cPRA was only 79%, as most labs did not detect class II antibodies in this serum, only class I. Among those that did report class II antibodies, 5 reported weak anti-DPw1 reactivity and 4 reported weak anti-DR18 reactivity, with respective MFI = 1229 and 1226.

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#### **Patient 1 (Serum 65):**

*History:* This individual is a 50 year old male being evaluated for his second transplant. The HLA type of the patient is A11-A34-B62-B75-Cw4/DR15-DR51-DQ5-DQ6-DP5. The HLA typing of his first transplant is A11-A34-B62-Cw4-Cw7/DR11-DR15-DR51-DQ5-DQ6-DP1-DP5.

Against **donor V1**, anti-A24 (7142) reactivity of moderate strength was reported by all labs, with 2 labs also reporting allele level A\*24:03 (3605) reactivity. Class II DSA detected were DR53 (12509), DP4 (DP401) (5314), and DR9 (2440). Virtual T-cell predictions were mixed among labs, with 15 labs predicting the crossmatch to be positive, 2 predicting borderline results, and 3 predicting it to be negative. By contrast, B-cell predictions were reported in complete agreement as positive. Predicted renal transplant risk was reported as unacceptable by all but 1 lab.

Weak anti-B44 (2518) reactivity was reported against **donor V2**. In addition, a number of labs (n=6) also reported reactivity to Bw4 (5740). For class II, anti-DP2 (8187) and -DR1 (2474) reactivity was reported. T-cell predictions were mixed among labs, with 13 labs predicting the crossmatch to be positive, 2 predicting it to be borderline, and 5 predicting it to be negative. Better agreement was achieved for B-cell predictions, as 16 labs predicted it to be positive, 2 predicted borderline results, and 1 predicted it to be negative. For predicted renal transplant risk, 16 labs assessed the risk as acceptable. Three assessed it as acceptable and 1 noted it would communicate with the clinical program.

There were only 3 labs reporting class I DSA against **donor V3**, with each reporting very weak anti-A68 (564) reactivity. By contrast, strong class II DSA (DR4, DR53, and DP4 (DP402) were reported against donor V3, with respective MFI = 17689, 12509, and 7687. For the virtual T-cell crossmatch, good agreement was achieved, as 17/19 labs predicted it to be positive. Good agreement was also achieved for the virtual B-cell crossmatch, as it was reported as positive in complete agreement. In turn, predicted renal transplant risk was reported as unacceptable by all but 2 labs.

Against **donor V4**, multiple class I and class II DSA were detected, as labs reported anti-B27 (3095), -B51(4916), -Bw4 (5740), and -DR53 (12509) reactivity. Additional weak reactivity to DP11 (1910) and DR7 (825) was reported by some labs. The presence of multiple DSA resulted in good agreement among labs with respect to predictions, as 19/20 labs predicted the T-cell crossmatch to be positive and 20/20 labs predicted the B-cell crossmatch to be positive. One lab predicted the T-cell crossmatch to be borderline. For renal transplant risk, all but 1 lab assessed the risk as unacceptable.

**Patient 2 (Serum 66):**

*History:* This individual is a 24 year old male being evaluated for his first transplant. The HLA type of the patient is A24-A33-B75-B58-Cw3-Cw4/DR9-DR12-DR52-DR53-DQ7-DQ9-DP5.

Against donor **V1**, multiple class I DSA (B56, Cw1, Cw7) were detected, with respective MFI values = 9816, 2897, and 12144. No class II DSA were reported against this donor. Good agreement was achieved among labs for the virtual T-cell crossmatch, as 18/20 labs reported it as positive. B-cell predictions were much more variable, with 10 labs predicting the crossmatch to be positive, 10 predicting it to be negative, and 1 predicting borderline results. Predicted renal transplant risk was reported as unacceptable by 18 labs and as acceptable by 2 labs.

With exception of a few labs reporting weak Cw5 (1021) and DP5 (1267) reactivity against **donor V2**, the remainder of the labs reported no class I or class II DSA were present against this donor. For the virtual T-cell crossmatch, good agreement was achieved as 17 labs predicted it to be negative, 1 predicted borderline results, and 2 predicted it to be positive. Good agreement was also achieved for B-cell predictions, as all but 1 lab predicted the B-cell crossmatch to be negative. Predicted renal transplant risk was reported as unacceptable by 18 labs and unacceptable by the 2 labs predicting the T-cell crossmatch to be positive.

Against **donor V3**, anti-Cw7 (12144) reactivity was reported by 17 labs. Three labs reported no class I DSA were present. Among them, 1 lab noted it detected Cw7 by single antigen (SAB), however by phenotype beads it was negative, and therefore a false positive by SAB assays. T-cell predictions were mixed among labs, as 15 labs predicted the T-cell crossmatch to be positive and 5 predicted it to be negative. B-cell predictions were also mixed among labs, as 8 labs predicted the B-cell crossmatch to be positive and 12 predicted it to be negative. Consequently, predicted renal transplant risk assessments were mixed, with 5 labs noting the risk as acceptable and 15 noting it as unacceptable in line with T-cell predictions.

Multiple class I DSA were reported against **donor V4**, with labs reporting ant-B27 (8242), -A3 (4263), -Cw1 (2897), and -Cw15 (3442) reactivity. No class II DSA were detected against the donor. T-cell predictions were reported in complete consensus as positive. B-cell predictions, however, were much more variable in the absence of class II DSA, with half (n=10) the labs predicting a positive crossmatch and the other half predicting a negative one. Predicted renal transplant risk for serum 66 against donor V4 was reported as unacceptable by all 20 labs.

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# Flow Crossmatch Results



**Table 4. Individual Flow crossmatch results and DSA reported for Cell #061 vs. Serum #063**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	63	10	171			Positive	B18(7924), Bw6(8122)	40	23			Negative	No DSA	573	796	NO
54	63					Negative	B18(10515)					Positive	No DSA			NO
206	63	2.98	41.57	6.67		Positive	B18(8065)	4.94	74.4	6.7		Positive	No DSA	7.34	13.05	YES
230	63	1	1.2			Positive	Bw6(10182)	2	21			Positive	No DSA	0.85	2.1	NO
615	63	40	246			Positive No pronase	B18(9383)	40	238			Positive Pronase	No DSA	197	267	YES
774	63	50	154			Positive	B18(8064)	120	123			Positive	No DSA	258	333	NO
792	63	52	119			Positive	B18(7168)	106	116			Positive	No DSA	247	249	YES
1160	63	90	210			Positive	B18/Bw6(9298)	120	207			Positive	No DSA	252	247	YES
2400	63	40	185			Positive	B18(7040)	80	6			Negative	No DSA	82	393	NO
3135	63	1,2	3311	1,2		Positive	NT					NT	NT	2723		NO
3224	63	70	77			Positive	B18(9351)	140	7			Positive	No DSA	255	239	YES
3625	63	40 LCS	167	N/A	N/A	Positive	B18(4718)	40 LCS	88	N/A	N/A	Positive	No DSA	157	304	NO
3753	63	50	172			Positive	B18(4637), Bw6(6819)	100	156			Positive	No DSA	246	241	YES
4345	63					Positive	NT					Negative	NT			NO
4661	63	10	121			Positive	B18(1567)	10	130			Positive	No DSA	258	255	YES
5219	63	1		4.87		Positive	NT	1.2		1.66		Positive	NT	0.367	0.39	NO
8001	63	50	181			Positive	B18(9408), Bw6(19543)	100	215			Positive	No DSA	289	270	YES
8050	63	50	171		3551	Positive	B18(7905), Bw6(8940)	120	103		4929	Negative	No DSA	97	195	NO
8083	63	90	40			Negative	B18(6423)	150	48			Negative	No DSA			YES
8096	63	20	42.13			Positive	No DSA	NT				NT	No DSA	16.93	NT	NO
8103	63		220			Positive	B18(1386), Bw6(5507)		1622			Positive	No DSA	49.32	647.7	NO

**Table 5. Individual Flow crossmatch results and DSA reported for Cell #061 vs. Serum #064**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	64	10	2			Negative	No DSA	40	0			Negative	No DSA	573	796	NO
54	64					Negative	No DSA					Negative	No DSA			NO
206	64	2.98	3.27	1.45		Negative	No DSA	4.94	15.6	2.2		Negative	No DSA	7.34	13.05	YES
230	64	1	1			Positive	No DSA	2	0			Negative	No DSA	0.85	2.1	NO
615	64	40	37			Negative	No DSA	40				No result	No DSA	197	267	YES
774	64	50	11			Negative	No DSA	120	28			Negative	No DSA	258	333	NO
792	64	52	14			Negative	No DSA	106	62			Negative	DQ4(537)	247	249	YES
1160	64	90	<0			Negative	No DSA	120	108			Borderline	DP1(788)	252	247	YES
2400	64	40	-13			Negative	No DSA	80	-38			Negative	DP3(865)	82	393	NO
3135	64	1,2	2658	1,0		Negative	NT					NT	NT	2723		NO
3224	64	70				Negative	No DSA	140				Negative	No DSA	255	239	YES
3625	64	40 LCS	25	N/A	N/A	Negative	No DSA	40 LCS	51	N/A	N/A	Positive	No DSA	157	304	NO
3753	64	50	22			Negative	No DSA	100	72			Negative	No DSA	246	241	YES
4345	64					Negative	NT					Negative	NT			NO
4661	64	10	0			Negative	No DSA	10	37			Positive	No DSA	258	255	YES
5219	64	1		1		Negative	NT	1.2		0.93		Negative	NT	0.367	0.39	NO
8001	64	50	24			Negative	No DSA	100	140			Positive	No DSA	289	270	YES
8050	64	50	21		689	Negative	No DSA	120	50		2761	Negative	No DSA	97	195	NO
8083	64	90	29			Negative	No DSA	150	54			Negative	No DSA			YES
8096	64	20	12.25			Negative	No DSA	NT				NT	DR13(2001)	16.93	NT	NO
8103	64		102			Positive	No DSA		2424			Positive	No DSA	49.32	647.7	NO

**Table 6. Individual Flow crossmatch results and DSA reported for Cell #061 vs. Serum #065**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	65	10	67			Positive	B27(3791)	40	160			Positive	DP3(5674)	573	796	NO
54	65					Negative	B27(4251)					Positive	DP3(9617)			NO
206	65	2.98	13.77	2.88		Negative	B27(3146)	4.94	130.45	11		Positive	No DSA	7.34	13.05	YES
230	65	1	1.2			Positive	No DSA	2	20			Positive	DP3(9130)	0.85	2.1	NO
615	65	40	189			Positive No pronase	B27(3095)	40	363			Positive	DP3(7252), DP1(1746)	197	267	YES
774	65	50	66			Positive	B27(2123)	120	193			Negative	DP3(7778)	258	333	NO
792	65	52	60			Positive	B27(3097)	106	251			Positive	DP3(7410), DQ4(1513), DP1(1256)	247	249	YES
1160	65	90	117			Positive	B27(3559)	120	327			Positive	DP3(8839)	252	247	YES
2400	65	40	82			Positive	B27(2293)	80	75			Negative	DP3(6164)	82	393	NO
3135	65	1,2	3021	1,1		Negative	NT					NT	NT	2723		NO
3224	65	70				Borderline wk Positive	B27(3851)	140	151			Positive	DP3(9233)	255	239	YES
3625	65	40 LCS	92	N/A	N/A	Positive	B27(1593)	40 LCS	182	N/A	N/A	Positive	DP3(4662)	157	304	NO
3753	65	50	109			Positive	B27(2900)	100	267			Positive	DP3(4312)	246	241	YES
4345	65					Positive	NT					Positive	NT			NO
4661	65	10	61			Positive	B27(826)	10	154			Positive	DP3(656)	258	255	YES
5219	65	1		3.4		Positive	NT	1.2		4.89		Positive	NT	0.367	0.39	NO
8001	65	50	104			Positive	B27(3602)	100	292			Positive	DP3(8607), DQ4(1689), DP1(1758)	289	270	YES
8050	65	50	96		1564	Positive	B27(2323)	120	184		11948	Positive	DP3(7002)	97	195	NO
8083	65	90	183			Positive	B27(1364)	150	328			Positive	DP3(7211), DQ4(1614), DP1(1616)			YES
8096	65	20	20.36			Positive	B27(503)	NT				NT	DQ4(1931)	16.93	NT	NO
8103	65		172			Positive	No DSA		2880			Positive	DP3(2894)	49.32	647.7	NO

**Table 7. Individual Flow crossmatch results and DSA reported for Cell #061 vs. Serum #066**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	66	10	250			Positive	B27(7057), Cw7(9035), Cw6(1650)	40	120			Positive	DR18(1118)	573	796	NO
54	66					Positive	B27(5705), Cw7(9815), Cw6(1573)					Positive	No DSA			NO
206	66	2.98	55.62	8.58		Positive	B27(9613)	4.94	92.45	8.08		Positive	No DSA	7.34	13.05	YES
230	66	1	1.3			Positive	B27(12512), Cw7(17543), Cw6(3869)	2	350			Positive	No DSA	0.85	2.1	NO
615	66	40	322			Positive No pronase	B27(7688), Cw7(9472), Cw6(1829)	40	339			Positive	DP1(1350), DR18(1334)	197	267	YES
774	66	50	171			Positive	B27(10157), Cw7(12785)	120	144.5			Positive	No DSA	258	333	NO
792	66	52	167			Positive	B27(8234), Cw7(9672), Cw6(2078)	106	161			Positive	DP1(1078), DR18(488), DQ4(486)	247	249	YES
1160	66	90	256			Positive	B27(7810)	120	257			Positive	No DSA	252	247	YES
2400	66	40	235			Positive	B27(9053), Cw7(13236), Cw6(2309)	80	28			Negative	No DSA	82	393	NO
3135	66	1,2	3984	1,5		Positive	NT					NT	NT	2723		NO
3224	66	70	137			Positive	B27(8836), Cw7(9617), Cw6(1986)	140	67			Positive	No DSA	255	239	YES
3625	66	40 LCS	229	N/A	N/A	Positive	B27(8164), Cw7(13257), Cw6(2278)	40 LCS	158	N/A	N/A	Positive	No DSA	157	304	NO
3753	66	50	218			Positive	B27(7676), Cw7(14299), Cw6(3506)	100	200			Positive	No DSA	246	241	YES
4345	66					Positive	NT					Negative	NT			NO
4661	66	10	165			Positive	B27(2104), Cw7(1794)	10	193			Positive	No DSA	258	255	YES
5219	66	1		8.77		Positive	NT	1.2		11.1		Positive	NT	0.367	0.39	NO
8001	66	50	205			Positive	B27(10383), Cw7(12491), Cw6(2549)	100	264			Positive	DP1(1125)	289	270	YES
8050	66	50	31		768	Negative	B27(9006), Cw7(14288), Cw6(2665)	120	0		936	Negative	No DSA	97	195	NO

**Table 7. Individual Flow crossmatch results and DSA reported for Cell #061 vs. Serum #066**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
8083	66	90	17			Negative	B27(11475), Cw7(14719), Cw6(3739)	150	22			Negative	DP1(2526), DR18(1344), DQ4(1635)			YES
8096	66	20	71.25			Positive	B27(4301)	NT				NT	No DSA	16.93	NT	NO
8103	66		179			Positive	B27(2121), Cw7(3129)		1359			Positive	No DSA	49.32	647.7	NO

Cell #063 - HLA genotype:

A\*01:01-A\*29:01-B\*07:05:01G-B\*57:01-C\*06:02:01G-C\*15:05:01G/ DRB1\*07:01-DRB1\*14:05-DRB3\*02:02:01G-DRB4\*01:03-DQB1\*03:03-DPB1\*05:01:01G

**Table 8. Individual Flow crossmatch results and DSA reported for Cell #062 vs. Serum #063**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	63	10	252			Positive	B7(9131)	40	60			Positive	No DSA	557	837	NO
54	63					Positive	B7(11836)					Positive	No DSA			YES
206	63	2.98	37.57	6.71		Positive	B7(9303)	4.94	44.95	5.45		Positive	No DSA	6.58	10.1	YES
230	63	1	2.4			Positive	No DSA	2	5.7			Positive	No DSA	1	2.3	NO
615	63	50	331			Positive No pronase	B7(9998)	50	286			Positive	No DSA	189	288	YES
774	63	50	172			Positive	B7(8788)	120	91			Negative	No DSA	222	375 for 63, 64, 66; 314 for 65	NO
792	63	52	152			Positive	B7(8224)	106	141			Positive	No DSA	248	279	YES
1160	63	90	267			Positive	B7(10669)	120	210			Positive	No DSA	239	315	YES
2400	63	40	237			Positive	B7(8313)	80	58			Negative	No DSA	38	355	NO
3135	63	1,2	5560	1,1		Negative	NT					NT	NT	5258		NO
3224	63	70	239			Positive	B7(10846)	140	132			Positive	No DSA	255	239	YES
3625	63	40 LCS	170	N/A	N/A	Positive	B7(5661)	40 LCS	83	N/A	N/A	Positive	No DSA	158	344	NO
3753	63	50	184			Positive	B7(5497)	100	190			Positive	No DSA	237	254	YES
4345	63					Positive	NT					Negative	NT			NO
4661	63	10	148			Positive	B7(2458)	10	171			Positive	No DSA	241	265	YES
5219	63	1		8.66		Positive	NT	1.2		31.99		Positive	NT	0.324	0.443	NO
8001	63	50	211			Positive	B7(10298)	100	264			Positive	No DSA	274	269	YES
8050	63	50	173		4983	Positive	B7(9001)	120	165		12080	Positive	No DSA	126	215	NO
8083	63	90	152			Positive	B7(7588)	150	84			Negative	No DSA			YES
8096	63	20	24.14			Positive	B7(4358)	NT				NT	No DSA	14.88	NT	NO
8103	63		152			Positive	B7(1877)		2335			Positive	No DSA	53.52	1198.5	NO

**Table 9. Individual Flow crossmatch results and DSA reported for Cell #062 vs. Serum #064**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	64	10	39			Negative	No DSA	40	139			Positive	DR7(3909), DR53(2107)	557	837	NO
54	64					Negative	No DSA					Negative	DR7(6637), DR53(4845)			YES
206	64	2.98	3.07	1.47		Negative	No DSA	4.94	91.4	10.05		Positive	DR7(6213), DR53(4380)	6.58	10.1	YES
230	64	1	0.85			Negative	No DSA	2	35			Positive	DR7(6616), DR53(5180)	1	2.3	NO
615	64	50	45			Negative	No DSA	50	329			Positive	DR7(6188), DR53(4924)	189	288	YES
774	64	50	34			Negative	No DSA	120	139			Positive	DR7(5765), DR53(4327)	222	375 for 63, 64, 66; 314 for 65	NO
792	64	52	22			Negative	B7(986)	106	206			Positive	DR7(5292), DR53(4106)	248	279	YES
1160	64	90	19			Negative	No DSA	120	272			Positive	DR7(5490), DR14(7335), DR53(4022)	239	315	YES
2400	64	40	11			Negative	No DSA	80	80			Positive	DR7(4978), DR53(3276)	38	355	NO
3135	64	1,2	3704	0,7		Negative	NT					NT	NT	5258		NO
3224	64	70	7			Negative	No DSA	140	193			Positive	DR7(5772), DR53(3801)	255	239	YES
3625	64	40 LCS	19	N/A	N/A	Negative	No DSA	40 LCS	152	N/A	N/A	Positive	DR7(2462), DR53(1851)	158	344	NO
3753	64	50	23			Negative	No DSA	100	220			Positive	DR7(6883), DR53(4081)	237	254	YES
4345	64					Negative	NT					Positive	NT			NO
4661	64	10	0			Negative	No DSA	10	123			Positive	DR7(1794), DR53(1080)	241	265	YES
5219	64	1		1.06		WK Positive	NT	1.2		5.01		Positive	NT	0.324	0.443	NO
8001	64	50	26			Negative	B7(1143)	100	308			Positive	DR7(5937), DR53(4822)	274	269	YES
8050	64	50	1		760	Negative	No DSA	120	193		16406	Positive	DR7(6691), DR53(4416)	126	215	NO

**Table 9. Individual Flow crossmatch results and DSA reported for Cell #062 vs. Serum #064**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
8083	64	90	151			Positive	B7(1164), A1(1120 )	150	136			Negative	DR7(3108), DR53(2693)			YES
8096	64	20	7.63			Negative	No DSA	NT				NT	DR7(4872), DR53(4685)	14.88	NT	NO
8103	64		109			Positive	No DSA		3715			Positive	DR7(1285), DR53(840)	53.52	1198.5	NO



**Table 10. Individual Flow crossmatch results and DSA reported for Cell #062 vs. Serum #065**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	65	10	171			Positive	B57(6352)	40	132			Positive	DR53(5950), DR14(992)	557	837	NO
54	65					Negative	B57(8435)					Negative	DR53(15781), DR14(3497), DQ9(2117)			YES
206	65	2.98	19.02	3.89		Positive	B57(6368)	4.94	58.75	6.82		Positive	DR53(14179), DR14(3330)	6.58	10.1	YES
230	65	1	2.1			Positive	B57(7524)	2	10			Positive	DR53(15668), DR14(3293)	1	2.3	NO
615	65	50	278			Positive No pronase	B57(5809)	50	365			Positive	DR53(11802), DR14(2792), DQ9(1706)	189	288	YES
774	65	50	100			Positive	B57(5346)	120	173			Positive	DR53(13875), DR14(2688)	222	375 for 63, 64, 66; 314 for 65	NO
792	65	52	104			Positive	B57(5497)	106	200			Positive	DR53(12004), DR14(2794), DQ9(1857)	248	279	YES
1160	65	90	199			Positive	B57(6337)	120	276			Positive	DR53(13027), DR14(2272), DQ9(1106)	239	315	YES
2400	65	40	155			Positive	B57(5481)	80	92			Positive	DR53(11465), DR14(2285)	38	355	NO
3135	65	1,2	4546	0,9		Negative	NT					NT	NT	5258		NO
3224	65	70	167			Positive	B57(7424)	140	177			Positive	DR53(13139), DR14(3438), DQ9(2150)	255	239	YES
3625	65	40 LCS	91	N/A	N/A	Positive	B57(3469)	40 LCS	109	N/A	N/A	Positive	DR53(7295), DR14(1310)	158	344	NO
3753	65	50	147			Positive	B57(5651)	100	211			Positive	DR53(10896)	237	254	YES
4345	65					Positive	NT					Positive	NT			NO
4661	65	10	125			Positive	B57(1554)	10	169			Positive	DR53(862)	241	265	YES
5219	65	1		7.3		Positive	NT	1.2		13.71		Positive	NT	0.324	0.443	NO
8001	65	50	164			Positive	B57(6855)	100	311			Positive	DR53(14406), DR14(3057), DQ9(2003)	274	269	YES
8050	65	50	115		2643	Positive	B57(4892)	120	188		15533	Positive	DR53(12760)	126	215	NO
8083	65	90	230			Positive	B57(2733)	150	240			Positive	DR53(12509), DR14(2715), DQ9(1827)			YES
8096	65	20	18.18			Negative	No DSA	NT				NT	DR53(9269), DR14(2323)	14.88	NT	NO
8103	65		180			Positive	B57(1134)		2601			Positive	DR53(3339)	53.52	1198.5	NO

**Table 11. Individual Flow crossmatch results and DSA reported for Cell #062 vs. Serum #066**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	66	10	288			Positive	B7(9505), Cw15(2518), Cw6(1650)	40	101			Positive	No DSA	557	837	NO
54	66					Positive	B7(9774), Cw15(3462), Cw6(1573)					Positive	No DSA			YES
206	66	2.98	64.87	10.86		Positive	B7(12738)	4.94	69.05	7.84		Positive	No DSA	6.58	10.1	YES
230	66	1	0.7			Negative	B7(18112), Cw15(5648), Cw6(3869)	2	300			Positive	No DSA	1	2.3	NO
615	66	50	381			Positive	B7(11086), Cw15(2660), Cw2(1829)	50	347			Positive	No DSA	189	288	YES
774	66	50	209			Positive	B7(12344)	120	154			Positive	No DSA	222	375 for 63, 64, 66; 314 for 65	NO
792	66	52	197			Positive	B7(10338), Cw15(3051), Cw6(2078)	106	188			Positive	DP5(680), DR53(355)	248	279	YES
1160	66	90	313			Positive	B7(11972), Cw15(2167)	120	257			Positive	No DSA	239	315	YES
2400	66	40	277			Positive	B7(12824), Cw15(3337), Cw6(2309)	80	77			Negative	No DSA	38	355	NO
3135	66	1,2	7053	1,3		Positive	NT					NT	NT	5258		NO
3224	66	70	303			Positive	B7(12404), Cw15(3078), Cw6(1986)	140	190			Positive	No DSA	255	239	YES
3625	66	40 LCS	204	N/A	N/A	Positive	B7(11264), Cw15(3186), Cw6(2278)	40 LCS	136	N/A	N/A	Positive	No DSA	158	344	NO
3753	66	50	247			Positive	B7(12745), Cw15(4647), Cw6(3506)	100	247			Positive	No DSA	237	254	YES
4345	66					Positive	NT					Negative	NT			NO
4661	66	10	210			Positive	B7(3590)	10	234			Positive	No DSA	241	265	YES
5219	66	1		11.66		Positive	NT	1.2		24.9		Positive	NT	0.324	0.443	NO
8001	66	50	233			Positive	B7(12981), Cw15(3669), Cw6(2549)	100	314			Positive	No DSA	274	269	YES
8050	66	50	161		4370	Positive	B7(12703), Cw15(3442), Cw6(2665)	120	175		13475	Positive	No DSA	126	215	NO

**Table 11. Individual Flow crossmatch results and DSA reported for Cell #062 vs. Serum #066**

Center	Serum no	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Potential Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Potential Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
8083	66	90	101			Positive	B7(14120), Cw15(4767), Cw6(3739)	150	35			Negative	DP5(1853)			YES
8096	66	20	34.4			Positive	B7(5790), Cw15(3945)	NT				NT	No DSA	14.88	NT	NO
8103	66		153			Positive	B7C(3067)		1870			Positive	No DSA	53.52	1198.5	NO

# Single Antigen Results

**Table 12. Summary of Single Antigen results for Serum #063**

Class I							
*** Serum 63 ***							
18 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
B44	18	100%	14438	13204	4056	4323	18337
B45	18	100%	18071	16131	4513	5227	20738
<b>B7</b>	18	100%	8895	7994	2804	1877	11836
<b>B18</b>	17	94%	7924	7134	2572	1386	10515
B35	17	94%	7992	7173	2566	1571	10449
B42	17	94%	9297	8293	3009	1821	12502
B55	17	94%	6659	6240	2309	1557	9499
B56	17	94%	8229	7307	2778	1552	11168
B60	17	94%	6820	6420	2419	1451	9846
B62	17	94%	7394	6595	2362	1615	9833
B67	17	94%	10036	8727	3236	2116	13406
B71	17	94%	7918	7008	2482	1625	10240
B72	17	94%	7222	6644	2287	1539	9953
B75	17	94%	7444	7107	2857	1569	11352
B76	17	94%	16579	14460	4565	4590	19366
B8	17	94%	8815	7727	2751	1758	11793
B41	16	88%	8137	7408	2769	1406	11105
B50	16	88%	8982	8154	2706	1901	11801
B54	16	88%	7700	6955	2379	1667	9965
B61	16	88%	7805	7147	2597	1431	10415
B64	16	88%	6749	6155	2289	1481	9258
B48	15	83%	6911	6531	2180	797	9295
B39	14	77%	8289	7850	2481	1563	11490
B65	14	77%	3908	3873	1256	869	5559
B82	12	66%	13921	12535	3784	3808	17028
B52	11	61%	1890	1756	404	716	2168
B78	11	61%	6494	6168	1974	1322	8694
B81	11	61%	8553	8125	2520	1810	11484
B2708	9	50%	9900	8647	2971	2239	11357
B49	9	50%	1660	1774	372	1214	2436
<b>Bw6</b>	8	50%	9561	12230	5720	5507	19557
B27	8	44%	8129	6938	3541	2239	12770
B7801	6	33%	4824	4664	2612	1322	8113
B8101	6	33%	5975	5806	3357	1524	10356
B3901	5	27%	5287	5806	3689	1563	10515
B8201	5	27%	13080	12160	3415	6730	15616

Class II							
*** Serum 63 ***							
18 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
class II negative							

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #56

**Table 13. Summary of Single Antigen results Serum #064**

Class I							
*** Serum 64 ***							
18 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
B8	18	100%	5972	5456	2243	802	8838
A32	10	55%	1748	1924	579	1327	3390
B42	6	33%	1193	1294	241	1025	1648
B54	4	22%	1087	1165	200	982	1504
<b>B7</b>	4	22%	1114	1094	69	986	1164
Cw1	3	16%	1679	1714	420	1218	2246
<b>A1</b>	2	11%	890	890	230	660	1120
A80	2	11%	902	901	538	364	1439
B59	2	11%	1177	1177	249	928	1426
B76	2	11%	1198	1198	153	1045	1351
B81	2	11%	927	926	92	835	1018
Cw12	2	11%	1628	1628	286	1342	1914

Class II							
*** Serum 64 ***							
19 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
<b>DR53</b>	19	100%	4106	3644	1268	840	5180
<b>DR7</b>	19	100%	5765	5050	1676	1285	6883
DR1	18	94%	13632	12331	4148	2491	17606
DR10	18	94%	3383	2989	1087	662	4174
DR103	18	94%	5661	5034	1926	980	7176
DR4	17	89%	9610	8393	2933	2513	12174
DR51	17	89%	6170	5246	1823	1275	7178
DR9	17	89%	4307	3969	1462	1016	5899
DR14	13	68%	8829	8246	1836	4451	10047
DR15	13	68%	3515	3082	1280	562	4379
DQ2	5	26%	1399	2026	1237	1321	4495
DP14	3	15%	730	2063	1901	707	4752
DP17	3	15%	799	1156	600	668	2001
DP10	2	10%	716	715	37	679	752
DP11	2	10%	823	823	16	807	839
DP13	2	10%	692	692	23	669	715
DP19	2	10%	781	781	101	680	882
DP20	2	10%	692	691	8	684	699
DP9	2	10%	758	758	18	740	776
DPw1	2	10%	779	779	9	770	788
DPw3	2	10%	845	844	21	824	865
<b>DPw5</b>	2	10%	813	812	9	804	821
DPw6	2	10%	762	761	8	754	769
DQA1*05	2	10%	1340	1339	19	1321	1358
DP26	1	5%	1055	1055	-	1055	1055
DPA1*02	1	5%	1048	1048	-	1048	1048
DPA1*03	1	5%	1055	1055	-	1055	1055
DQA1*02	1	5%	1077	1077	-	1077	1077
DR13	1	5%	2001	2001	-	2001	2001
DR16	1	5%	6086	6086	-	6086	6086

**Blue** = DSA against cell #061 only  
**Gold** = DSA against cell #062 only  
**Green** = DSA against cell #061 and #56

**Table 14. Summary of Single Antigen results Serum #065**

Class I							
*** Serum 65 ***							
19 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
A23	18	95%	7475	6798	3051	551	10941
A24	18	95%	7142	6509	3056	494	10913
A25	18	95%	5265	4839	2247	353	8306
A32	18	95%	6157	5547	2451	654	9099
B57	18	95%	5574	5384	1951	1134	8435
B27	17	89%	3095	2843	1321	503	6016
B49	17	89%	4785	4185	1911	544	7054
B58	17	89%	5308	5104	1973	969	7952
B59	17	89%	3738	3252	1418	501	5124
B38	16	84%	5034	4565	1806	1027	7098
B44	16	84%	2518	2518	1174	531	4581
B53	16	84%	4657	4185	1557	1022	6174
B63	16	84%	5081	4730	2015	1166	8880
B77	16	84%	3942	3615	1370	870	5642
B51	15	79%	4916	4650	1572	599	6746
B52	15	79%	3858	3598	1195	670	5342
B37	14	74%	3008	2748	931	598	3947
B13	12	63%	2516	2382	1025	318	3925
A80	11	58%	1780	1754	566	406	2789
B47	10	53%	1893	1815	583	490	2577
Bw4	7	37%	5740	5219	1947	1827	7424
A2	6	32%	1229	1198	206	885	1451
A2403	5	26%	3605	4483	2835	1545	8769
B76	4	21%	1135	1284	298	1069	1798
A68	2	11%	564	564	49	515	613
A69	2	11%	709	709	36	673	745
A210	1	5%	1202	1202	-	1202	1202
B15	1	5%	1166	1166	-	1166	1166

Blue = DSA against cell #061 only  
 Gold = DSA against cell #062 only  
 Green = DSA against cell #061 and #56

Class II							
*** Serum 65 ***							
19 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
DR53	19	100%	12509	11186	4004	862	15781
DR11	18	94%	4796	4430	1624	457	7965
DR4	18	94%	17689	15871	4315	3464	20032
DPw3	17	89%	7252	6739	2371	656	9617
DP14	16	84%	5911	5392	1985	450	7983
DP17	16	84%	5953	5192	1899	454	7788
DP18	16	84%	7244	6563	2370	669	9686
DP28	16	84%	7104	6448	2496	545	9321
DP9	16	84%	6295	5674	2039	496	7885
DPw2	16	84%	8187	7444	2536	799	10723
DPw6	16	84%	6126	5437	1835	628	7620
DR10	15	78%	3365	3132	724	1935	4402
DR14	15	78%	2792	2668	716	992	3497
DP10	14	73%	6152	5836	1194	3526	7413
DP20	14	73%	7310	7160	1362	4196	9166
DR1	12	63%	2474	2378	874	1261	4592
DR9	12	63%	2440	2513	532	1729	3657
DP402	10	52%	7037	6722	2865	880	10097
DQ8	9	47%	2311	3508	3354	1955	12980
DPw4	8	42%	8337	8195	2124	3306	10912
DQ7	8	42%	1698	1690	283	1085	2079
DQ9	8	42%	1996	1987	171	1706	2248
DP11	6	31%	1910	1922	169	1659	2138
DP19	6	31%	1987	1844	293	1313	2109
DP23	5	26%	1393	1398	154	1152	1628
DPw1	5	26%	1706	1616	187	1256	1758
DQ4	5	26%	1614	1620	82	1513	1733
DP13	4	21%	1376	1333	148	1092	1491
DP401	3	15%	2291	1956	490	1263	2314
DQA1*03	3	15%	1739	1816	364	1414	2295
DR7	3	15%	825	899	119	805	1067
DPA1*01	2	10%	6224	6223	2882	3342	9105
DPA1*03	2	10%	5353	5353	2221	3132	7574
DQ2	2	10%	808	808	78	730	886
DP26	1	5%	1124	1124	-	1124	1124
DPA1*02	1	5%	10288	10288	-	10288	10288

**Table 15. Summary of Single Antigen results Serum #066**

Class I							
*** Serum 66 ***							
19 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
B27	19	100%	8642	8001	2706	2104	12512
A3	18	94%	4263	4134	1368	1048	6880
B42	18	94%	11047	9902	3529	2202	16586
B54	18	94%	6476	6069	2104	1495	10226
B55	18	94%	8664	8174	2861	1953	13287
B56	18	94%	9816	8649	3198	1969	14508
B67	18	94%	11074	10105	3431	2298	16434
B7	18	94%	12374	11494	3035	3590	18112
B73	18	94%	8083	7364	2799	1461	12368
Cw7	16	84%	12144	11059	3972	1794	17543
Cw15	15	78%	3442	3546	883	2167	5648
B48	13	68%	2400	2528	946	1422	4323
B81	13	68%	11960	10801	3750	2476	17301
B82	13	68%	8557	8033	2833	2184	13464
Cw1	13	68%	2897	3137	929	1797	4889
Cw12	13	68%	2887	3116	1036	1295	4948
Cw6	13	68%	2309	2488	736	1573	3869
Cw16	12	63%	3513	3665	1110	1916	5755
Cw14	11	57%	2231	2404	583	1658	3638
Cw18	11	57%	2002	4620	7503	1320	28252
Cw8	11	57%	2244	2545	708	1634	3915
Cw2	9	47%	1491	1684	538	1029	2598
B60	8	42%	1499	1706	525	1059	2540
B2708	6	31%	9416	7900	4242	2121	14014
B8101	6	31%	10935	8701	4520	2429	13558
B8201	5	26%	8818	7941	2741	2733	10842
Cw5	4	21%	1021	1128	293	852	1621
A11	2	10%	2143	2143	1769	374	3912
A32	2	10%	1024	1024	296	728	1320
A74	2	10%	995	994	264	731	1258
B703	2	10%	1010	1010	13	997	1023
A210	1	5%	1202	1202	-	1202	1202
A34	1	5%	2273	2273	-	2273	2273
A36	1	5%	646	646	-	646	646
A69	1	5%	4437	4437	-	4437	4437
B41	1	5%	1662	1662	-	1662	1662

Class II							
*** Serum 66 ***							
8 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
DPw1	5	63%	1229	1461	540	1078	2526
DR18	4	50%	1226	1071	348	488	1344
Neg	3	38%	-	-	-	-	-
DP10	2	25%	925	924	561	364	1485
DP14	2	25%	1021	1021	536	485	1557
DPw5	2	25%	1267	1266	587	680	1853
DPw6	2	25%	1532	1531	1046	486	2577
DQ4	2	25%	1061	1060	575	486	1635
DPA1*01	1	13%	1192	1192	-	1192	1192
DPA1*02	1	13%	1229	1229	-	1229	1229

Blue = DSA against cell #061 only  
 Gold = DSA against cell #062 only  
 Green = DSA against cell #061 and #56



**Table 16. Individual laboratory results for Serum #063 - class I by Luminex**

Center	B44	B45	B7	B18	B35	B42	B55	B56	B60	B62	B67	B71	B72	B75	B76	B8	B41	B50	B54	B61	B64	B48	B39	B65	B82	B52
23	10819	14968	9131	7924	8449	10050	7323	8548	7661	7597	10669	7956	7633	7196	14042	9023	8256	8994	7920	7804	7529	7007	8370	4612	12034	1951
54	16726	19967	11836	10515	10449	12502	9055	11168	9846	9833	13406	10240	9953	11352	19366	11793	11105	11801	9965	10415	9258	9295	11490	5559	17028	2081
206	14738	18067	9303	8065	8065	9749	6659	8615	7604	7394	10348	7918	7222	7444	17935	8869	8720	9232	7796	8189	6707	7224	8345	3853	14992	
230	18337	20738																								
615			9998	9383																						
774	15282	18074	8788	8064	7992	9373	7255	8676	6775	7607	10036	8005	7693	8887	17578	8526	8120	8969	7364	7806	6890	6719	8796		14173	
792	12462	15332	8224	7168	7739	8544	6565	7571	6820	6991	9132	6959	7110	7878	14076	7713	7562	8388	7022	7262	6307	6206	8110	3932	12569	1996
836	16925	19557	10047	8427	8970	9989	9499	9047	8112	8405	11007	8802	8449	9345	18266	9515	9490	9829	8425	8899	7542	8990	8233	4551		2168
1160	16058	19173	10669	9298	9687	11268	8528	9781	9032	9002	11968	9806	8625	9903	17867	10085	10071	10405	8736	9592	8141	8750	10602	4980	14318	1399
2400	14203	18532	8313	7040	7562	9112	5747	7356	6603	6414	8164	7192	6619	7519	17031	8815	8129	8125	8182	7203	6542	5906	8104	3884	13669	
3224	15515	18453	10846	9351	9919	11483	8485	10482	8712	9013	11872	9483	8885	9895	16579	10308	9851	10734	9368	9717	8397	7920		5247		1890
3625	11438	13484	5661	4718	5238	5786	4441	5586	4566	4718	6337	4654	5269	6776	12135	5837	4896	6276	5126	5261	3846	4136		2569		2003
3753	14245	17686	5497	4637	5045	5224	4198	4814	4761	4757	5519	5003	4557	4126	15185	4861	5689	6177	4488	5063	3610	3940	5752	2182	12410	1413
4661	4573	6285	2458	1567	2008	2318	2044	2085	1505	2129	2544	2156	2009	1782	5292	2002	1766	2366	2132	1460	1612					
8001	17008	19543	10298	9408	9564	10864	8619	10146	8700	9246	11190	9632	9063	10087	17867	10335	9939	10494	9274	9617	8427	8386	10057	4975	15626	1814
8050	14630	19229	9001	7905	8193	9297	6721	8229	7286	7476	10801	8131	7306	7334	17420	8941	8145	9124	7604	7815	6791	6911	9123	3664	14287	
8083	13664	16434	7588	6423	7058	7759	5560	6903	6215	5914	8180	6557	6010	6991	14076	6954		7656	6221	6819	5401	5781	7056	3355		1888
8096	6738	9615	4358		4442	5842	3830	3666	3501	4013	5076	5019	5015	2735	6521	6036	5386						4302		3808	
8103	4323	5227	1877	1386	1571	1821	1557	1552	1451	1615	2116	1625	1539	1569	4590	1758	1406	1901	1667	1431	1481	797	1563	869	5507	716
<b>Avg</b>	13205	16131	7994	7134	7174	8293	6240	7307	6421	6596	8727	7008	6645	7107	14460	7728	7408	8154	6956	7147	6155	6531	7850	3874	12535	1756
<b>Std</b>																										
<b>Dev.S</b>	4173	4644	2885	2652	2645	3102	2380	2864	2494	2435	3336	2559	2357	2945	4706	2836	2860	2794	2457	2682	2364	2256	2574	1303	3952	424
<b>%CV</b>	32%	29%	36%	37%	37%	37%	38%	39%	39%	37%	38%	37%	35%	41%	33%	37%	39%	34%	35%	38%	38%	35%	33%	34%	32%	24%

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

**Table 16. Individual laboratory results for Serum #063 - class I by Luminex - cont.**

Center	B78	B81	B27	B2708	B49	Bw6	B7801	B8101	B3901	B8201	Other	Manufacturer
23	6734	8732		9900	2361	8122					B73,Cw1,Cw9,Cw8	One Lambda
54	8694	11484	12770		1498							One Lambda
206	6437	8553										One Lambda
230						10182						One Lambda
615												
774	6509	8242	9662									One Lambda
792	6024	7980	8512		1868						B13,B47,B73,Cw1>	One Lambda
836				10451	1686	19557	7327	9198	9547	15616	B4005,B3902	One Lambda
1160	8007	10176		11032		19173						One Lambda
2400	5730	8950	8571									One Lambda
3224				11357	1619		8113	10356	10515	15471		One Lambda
3625				6089	1660		4050	5250	5287	9907		One Lambda
3753	3862	5056		5964		6819						One Lambda
4661			3198				1577	1524	2119	6730		Lifecodes
8001	8036	10060		10976	1214	19543						One Lambda
8050	6494	8335		9818		8940						One Lambda
8083			7745		1625		5598	6699		13080		One Lambda
8096			2812		2436						A66,A34,A30,A31>	One Lambda
8103	1322	1810	2239	2239		5507	1322	1810	1563		A24,B40,B15,B51>	Immucor
<b>Avg</b>	6168	8125	6939	8647	1774	12230	4665	5806	5806	12161		
<b>Std</b>												
<b>Dev.S</b>	2071	2643	3786	3152	395	6115	2861	3677	4124	3818		
<b>%CV</b>	34%	33%	55%	36%	22%	50%	61%	63%	71%	31%		

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

**Table 17. Individual laboratory results for Serum #064 - class I by Luminex**

Center	B8	A32	B42	B54	B7	Cw1	Other	Manufacturer
23	4687	1530						One Lambda
54	7870	2157	1648			2246	Cw12	One Lambda
206	7286							One Lambda
230	7783	2286						One Lambda
615								
774	6033							One Lambda
792	6183	1795	1025	982	986	1679	B60,B48>	One Lambda
836	6489	2072	1599	1084	1085	1218		One Lambda
1160	5939	1327						One Lambda
2400	5785							One Lambda
3224	5997	1631	1112					One Lambda
3625	4352							One Lambda
3753	5447	1351						One Lambda
4661	802							Lifecodes
8001	6487	1701	1229	1090	1143		B81	One Lambda
8050	5947							One Lambda
8083	8838	3390	1156	1504	1164		A1,B76,B59	One Lambda
8096	1232						A80	One Lambda
8103	1054							Immucor
<b>Avg</b>	5456	1924	1295	1165	1095	1714		
<b>Std</b>								
<b>Dev.S</b>	2308	610	263	231	80	515		
<b>%CV</b>	42%	32%	20%	20%	7%	30%		

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

**Table 18. Individual laboratory results for Serum #065 - class I by Luminex**

Center	A23	A24	A25	A32	B57	B27	B49	B58	B59	B38	B44	B53	B63	B77	B51	B52	B37	B13	A80	B47	Bw4	A2	A2403	B76	Other	Manufacturer	
23	8690	7976	6766	7381	6352	3791	5893	6499	4540	5831	3392	5552	5586	4684	5565	4512	3697	3168	1340	2291	4434					One Lambda	
54	10941	10913	8306	9099	8435	4251	7054	7952	4982	7098	4581	6174	7261	5642	6746	5342	3947	3925	2789	2577		1451		1798		One Lambda	
206	8472	7592	5788	7238	6368	3146	5372	5969	4010	5214		4937	5347	4252	5151	4030	3299									One Lambda	
230	10408	10443	7328	8432	7524			7041											2155		5740					One Lambda	
615					5809	3095																					
774	5920	5117	4212	4816	5346	2123	3803	4771	3182	4175	2235	3907	4575	3262	4174	3144	2378									One Lambda	
792	7842	7961	5510	6242	5497	3097	4853	5308	3763	4908	3117	4598	4493	3949	4971	3858	3062	2600	1780	1745		885		1159	A1,A68,A69>	One Lambda	
836	8001	8273	5439	6072	5452	6016	4785	5257	3738	6171	3016	4716	8880	3934	4845	3702	2794	2432	1681	1598		1383	6729		B62,A210	One Lambda	
1160	9672	8775	6490	7820	6944	3559	5960	6540	4234	6045	3558	5523	5731	4476	5987	4574	3463	3048	1785	2040	6944	1014		1069	A68,A69	One Lambda	
2400	6981	6691	4367	5138	5481	2293	3969	4809	2891	4112	2480	3603	5342	4448	4471	3263										One Lambda	
3224	10217	10318	7660	8066	7424	3851	6320	7210	5124	6573	4091	6075	6372	5084	6461	4988	3481	3484	2249	2272	7424	1335	8769			One Lambda	
3625	4621	4390	3434	3983	3469	1593	2952	3060	2652	2670	2062	2810	2630	2481	3153	2404	1678	1370					3605			One Lambda	
3753	7108	6075	5090	6261	5651	2900	5038	5881	4092	5160	2556	4933	4819	3663	4916	3858	2954	2332	1709	1731						One Lambda	
4661	1892	2128	1499	1807	1554	826	1225	1200	910	1176	859	1230	1490	1012	599	670	598	318		490			1771			Lifecodes	
8001	9352	9758	6827	7049	6855	3602	5873	6589	4763	5969	3672	5580	5771	4924	6155	4563	3407	3112	1860	2202	6855	1123		1111		One Lambda	
8050	5658	4103	4180	5550	4892	2323	4196	4963	3149	4485	1923	3823	4150	3302	4120	3165	2299	1677	1547	1204	3311					One Lambda	
8083	4341	4331	2764	2961	2733	1364	2330	2751	1849	2435	1449	2483	2081	1872	2444	1899	1424	1122								One Lambda	
8096	551	494	353	654		503	544		501		531								406							B54,B41,Cw7	One Lambda
8103	1708	1827	1106	1282	1134		983	969	913	1027	773	1022	1166	870							1827		1545		B15	Immucor	
<b>Avg</b>	6799	6509	4840	5547	5384	2843	4185	5104	3253	4566	2518	4185	4731	3616	4651	3598	2749	2382	1755	1815	5219	1199	4484	1284			
<b>Std</b>																											
<b>Dev.S</b>	3140	3144	2312	2522	2007	1362	1970	2034	1462	1865	1212	1608	2081	1415	1628	1237	966	1071	594	615	2103	226	3169	344			
<b>%CV</b>	46%	48%	48%	45%	37%	48%	47%	40%	45%	41%	48%	38%	44%	39%	35%	34%	35%	45%	34%	34%	40%	19%	71%	27%			

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

**Table 19. Individual laboratory results for Serum #066 - class I by Luminex**

Center	B27	A3	B42	B54	B55	B56	B67	B7	B73	Cw7	Cw15	B48	B81	B8101	B82	B8201	Cw1	Cw12	Cw6	Cw16	Cw14	Cw18	Cw8	Other	Manufacturer	
23	7057	3604	9176	5800	7087	7679	9399	9505	7019	9035	2518	1422	9359		7441		2438	1988	1650	2250	1658	1320	1698		One Lambda	
54	5705	3045	8618	4502	5775	5989	8504	9774	5672	9815	3462		7459		6016		2004	2199	1573	1916			1634		One Lambda	
206	9613	4983	12244	6772	9037	10479	12393	12738	8472				12739		9532											One Lambda
230	12512	6880	16586	10226	13287	14508	16434	18112	12368	17543	5648	3972	17301		13464		4839	4727	3869	5755	3638	3077	3915	B2708,B60>	One Lambda	
615	7688							11086		9472	2660								1829							
774	10157	4788	11146	7387	9291	10123	11127	12344	9327	12785		2052	11960		9184											One Lambda
792	8234	4000	9490	6158	7929	8585	9683	10338	7628	9672	3051	2188	10367		7940		2609	2556	2078	2948	1966	1718	2168	B60,A11,A25>	One Lambda	
836	8642	4215	11102	6618	12078	9834	11294	12617	8364	11797	3620	2454		11876		8999	2980	3003	2324	3676	2177	1875	2362	B60,B2708>	One Lambda	
1160	9103	4155	10992	5868	8452	9030	11021	11972	7802		2167	1434	11431		8488		1797									One Lambda
2400	9053	4365	11991	7202	9457	10709	12507	12824	8818	13236	3337	2509	13792		9513		2793	2887	2309	3243	2244					One Lambda
3224	8836	4310	11488	7006	8781	10015	11641	12404	8511	9617	3078	2039		11589		8818	2753	2798	1986	2893	2110	1732	2164	B60,B2708>	One Lambda	
3625	8164	3950	10544	6333	8547	9797	9966	11264	7700	13257	3186	2448		10281		8314	2897	2800	2278	3444	1993	2198	2244	B60,B2708>	One Lambda	
3753	7876	5457	9741	5880	8365	9054	10224	12745	7234	14299	4647	4069	12755		8557		4099	4382	3506	4999	2800	28252	3019	B60,Cw2	One Lambda	
4661	2104	1310	2712	1722	2768	2467	2842	3590	1730	1794				2429		2733									B2708,B703	Lifecodes
8001	10383	4349	12282	6969	9886	10682	12197	12981	8649	12491	3669	2400	12986		10003		3193	3199	2549	3582	2271	1889	2238	B60,Cw2	One Lambda	
8050	9006	4386	11465	6799	9625	10528	12109	12703	8503	14288	3442	1562	12605		9076		3491	3731	2665	4225	2231	2002	2910	Cw2	One Lambda	
8083	11475	6051	12446	8877	10624	11114	12861	14120	10683	14719	4767	4323		13558		10842	4889	4948	3739	5054	3366	3332	3651	B60,A32,A74>	One Lambda	
8096	4301	3523	4019	3628	4207	3127	5398	5790	2620		3945		5188		3033			1295					3435		A11,B49,A34,	One Lambda
8103	2121	1048	2202	1495	1953	1969	2298		1461	3129			2476	2476	2184										B2708,B703>	Immucor
<b>Avg</b>	8002	4134	9902	6069	8175	8649	10105	11495	7365	11059	3546	2529	10801	8702	8033	7941	3137	3116	2489	3665	2405	4621	2546			
<b>Std</b>																										
<b>Dev.S</b>	2781	1408	3631	2165	2944	3291	3530	3123	2880	4102	914	985	3903	4952	2949	3065	967	1078	766	1160	611	7869	742			
<b>%CV</b>	35%	34%	37%	36%	36%	38%	35%	27%	39%	37%	26%	39%	36%	57%	37%	39%	31%	35%	31%	32%	25%	170%	29%			

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

**Table 20. Individual laboratory results for Serum #063 - class II by Luminex**

Center	Class II NEG	Manufacturer
23		One Lambda
54		One Lambda
206		One Lambda
230		One Lambda
615		
774		One Lambda
792		One Lambda
836		One Lambda
1160		One Lambda
2400		One Lambda
3224		One Lambda
3625		One Lambda
3753		One Lambda
4661		Lifecodes
8001		One Lambda
8050		One Lambda
8083		One Lambda
8096		One Lambda
8103		Immucor

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

**Table 21. Individual laboratory results for Serum #064 - class II by Luminex**

Center	DR53	DR7	DR1	DR10	DR103	DR4	DR51	DR9	DR14	DR15	DQ2	DP14	DP17	Other	Manufacturer
23	2107	3909	8958	2065	3432	3256	3443	2521							One Lambda
54	4845	6637	16539	3935	7176	12174	6719	5626	10047	4379					One Lambda
206	4380	6213	14701	4174	6939	10051	6242	4949	9867						One Lambda
230	5180	6616	17606	4164	7175	8309	7178	5899							One Lambda
615	4294	6188													
774	4327	5765	15017	3398	5972	11704	6170	5003	9515	4200					One Lambda
792	4106	5292	12808	3353	5824	9610	5843	4594	8297	3736	1559	707	799	DQ4,DQ5,DQ7,DQ8 >	One Lambda
836	4437	6069	15176	3775	6354	10962	6428	5246	9479	4152	1358			DP26,DPA1*02,DPA1*03,DQA1*02>	One Lambda
1160	4022	5490	15127	3596	5447	9837	6772	4081	7335	3515	1399	730	668	DPw1,DPw3,DPw5,DPw6 >	One Lambda
2400	3276	4978	12129	3101	5251	8203	4888	3859	7918	3455					One Lambda
3224	3801	5772	14164	3367	5497	8716	6438	4307	7173	3752					One Lambda
3625	1851	2462	7418	1320	2575	5617	2878	1669	4648	1695					One Lambda
3753	4081	6883	13099	3585	6301		5614	4205							One Lambda
4661	1080	1794	4529	1086	1711	3826	1979	1482		651					Lifecodes
8001	4822	5937	15679	3902	6819	11483	7024	5377	10033	4377	1321			DQA1*05	One Lambda
8050	4416	6691	16021	3851	6498	10301	6647	4628	8829	2851					One Lambda
8083	2693	3108	8743	1780	4212	6486	3645	3017	4451	2745					One Lambda
8096	4685	4872	11768	2705	2463	9634			9607		4495	4752	2001	DR13,DR16	One Lambda
8103	840	1285	2491	662	980	2513	1275	1016		562					Immucor
<b>Avg</b>	3644	5051	12332	2990	5035	8393	5246	3969	8246	3082	2026	2063	1156		
<b>Std Dev.S</b>	1303	1722	4268	1119	1982	3023	1879	1507	1911	1333	1383	2329	735		
<b>MFI</b>															
<b>%CV</b>	36%	34%	35%	37%	39%	36%	36%	38%	23%	43%	68%	113%	64%		

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

**Table 22. Individual laboratory results for Serum #065 - class II by Luminex**

Center	DR53	DR11	DR4	DPw3	DP14	DP17	DP18	DP28	DP9	DPw2	DPw6	DR10	DR14	DP10	DP20	DR1	DR9	DP402	DQ8	DPw4	DQ7	DQ9	DP11	DQ4	DPw1	Other	Manufacturer
23	5950	4242	11580	5674	5691	4971	5792	5482	5542	6278	4871	2275	992	4776	6204		1729	6837			1085					DP401	One Lambda
54	15781	5973	19425	9617	7983	7788	9686	9061	7885	10723	7620	4402	3497	7413	9166	3129	2874		2287	10912	1914	2117				DP19	One Lambda
206	14179	5447	17411									4165	3330														One Lambda
230	15668	5511	19246	9130	7380	6859	8545	8684	7513	9825	7123	3770	3293	6951	8415	2520	2717	10097	2311								One Lambda
615	11802			7252									2792									1706			1746		
774	13875	5032	17824	7778	6458	6381	7760	7792	6522	9368	6400	3571	2688	6493	7977	2452	2172			8458							One Lambda
792	12004	5218	14641	7410	6019	6073	7608	7272	6210	8286	6224	3477	2794	5693	7045	2495	2362		1955	8215	1630	1857	1659	1513	1256	DP19,DP23>	One Lambda
836	14326	5120	19771	8128	6276	6006	7545	7857	6379	8882	6589	3694	3239	6108	7574	2589	2424	9105	2295		1641	1988	2119	1733	1706	DP19,DP23>	One Lambda
1160	13027	4371	19380	8839	6794	6142	8964	8845	7396	8563	6752	2632	2272	6887	8103	1300	2475		2653	9472	2079	2248		1554	DR7,DQ2,DF	One Lambda	
2400	11465	3877	17831	6164	5007	4850	5857	5551	5537	7810	4955	2452	2285	4911	6734						7397						One Lambda
3224	13139	5301	17734	9233	6839	6584	8912	9321	7725	8834	6997	3372	3438	7094	8423	1917	3235	9805	2554		1886	2150	1799			DP19,DP23>	One Lambda
3625	7295	3505	13086	4662	3722	4005	4793	4590	4357	5349	3848	1935	1310	3659	4196	1261		5164									One Lambda
3753	10896	2297	17975	4312	3464	3367	4127	3930	3794	5432	3506	2159		3526	4687	1392		5648								DQA1*03	One Lambda
4661	862	457	3464	656	450	454	669	545	496	799	628							880									Lifecodes
8001	14406	4936	20032	8607	6916	6663	8107	8471	7009	9766	6725	3365	3057	6620	8063	2540	2455		2367	9755	1754	2003	2138	1689	1758	DP19,DP23>	One Lambda
8050	12760	3850	17157	7002	5803	5900	6875	6701	6761	7764	6027	2690		6196	6830		1743	9142									One Lambda
8083	12509	4656	17644	7211	5591	5375	6942	6935	5790	8088	5958	3031	2715	5382	6833	2360	2324		2170	8046	1534	1827	1889	1614	1616	DP19,DP23>	One Lambda
8096	9269	7965	12917										2323			4592	3657	7236	12980				1931			DR8,DR12>	One Lambda
8103	3339	1987	8575	2894	1886	1665	2836	2136	1869	3342	2784							3306		3306						DPA1*01>	Immucor
<b>Avg</b>	11187	4430	15872	6739	5392	5193	6564	6448	5674	7444	5438	3133	2668	5836	7161	2379	2514	6722	3508	8195	1690	1987	1923	1621			
<b>Std</b>																											
<b>Dev.S</b>	4114	1671	4440	2444	2050	1961	2448	2578	2106	2619	1896	749	741	1239	1413	913	556	3020	3558	2270	302	183	185	91			
<b>MFI</b>																											
<b>%CV</b>	37%	38%	28%	36%	38%	38%	37%	40%	37%	35%	35%	24%	28%	21%	20%	38%	22%	45%	101%	28%	18%	9%	10%	6%			

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62



**Table 23. Individual laboratory results for Serum #066 - class II by Luminex**

Center	NEG	DPw1	DR18	DP10	DP14	DPw5	DPw6	DQ4	Other	Manufacturer
23			1118							One Lambda
54										One Lambda
206										One Lambda
230										One Lambda
615		1350	1334							
774										One Lambda
792		1078	488	364	485	680	486	486	DR53	One Lambda
836		1229							DPA1*01,DPA1*02	One Lambda
1160										One Lambda
2400										One Lambda
3224										One Lambda
3625										One Lambda
3753	0									One Lambda
4661										Lifecodes
8001		1125								One Lambda
8050										One Lambda
8083		2526	1344	1485	1557	1853	2577	1635		One Lambda
8096	0									One Lambda
8103	0									Immucor
<b>Avg</b>		1462	1071	925	1021	1267	1532	1061		
<b>Std Dev.S</b>		604	402	793	758	829	1479	812		
<b>MFI %CV</b>		41%	38%	86%	74%	65%	97%	77%		

**DSA present**

**Blue** = DSA against cell #061 only

**Gold** = DSA against cell #062 only

**Green** = DSA against cell #061 and #62

# Virtual Crossmatch Results

**Table 24. Individual Virtual crossmatch results for Serum #65 vs Donor #V1**

Donor #V1 - HLA genotype: A\*24:10-A\*33:03-B\*18:02-B\*56:04-C\*01:02:01G-C\*07:04:01G/DRB1\*09:01:02G-DRB1\*12:02-DRB3\*03:01-DRB4\*01:01:01G-DQB1\*03:01-DQB1\*03:03-DPB1\*04:01:01G-DPB1\*05:01:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	65		Positive	A24 (7976)	Positive	DR9 (1729) DR53 (5951) DQ7 (1084) DP401 (1263)	Unacceptable	
54	65	98	Positive	A24 (10913)	Positive	DR53 (15781) DQ7 (1914) DQ9 (2117) DPw4 (2210)	Unacceptable	
206	65	86%	Positive	A24 (7592)	Positive	DR53 (14179)	Unacceptable	
230	65	94	Positive	A24 (10443)	Positive	DR9 (2717) DR53 (15668) DP401 (2238)	Unacceptable	
774	65	93	Positive	A24 (5117)	Positive	DR9 (2172) DR53 (13875) DPw4 (8458)	Unacceptable	
792	65	100	Likely positive	A24 (7961)	Positive	DR9 (1249) DR53 (9344) DQ7 (1630) DQ9 (1857) DP401 (1792)	Unacceptable	No A*24:10 bead on SAB panel but other A*24 beads are positive
836	65	99	Positive	A24 (8273) A2403 (6729)	Positive	DR53 (11970) DQ7 (1625) DQ9 (1988) DPw4 (2291)	Unacceptable	
1160	65	93	Positive	A24 (8775)	Positive	DR9 (1216) DR53 (12128) DQ7 (2079) DQ9 (2248) DP401 (1906)	Unacceptable	No A*24:10 beads in antibody panel.
1461	65		Negative	A24 (1487) A2403 (1245)	Positive	DR9 (626) DR53 (3032) DPw4 (3053)	Acceptable	A*24:10, B*18:02, B*56:04, C*07:04 not included in Antibody panel
2400	65	90	Positive	A24 (6691)	Positive		Unacceptable	I - 74%, II - 68%
3224	65	96	Positive	A24 (10319)	Positive	DR9 (3236) DR53 (13140) DQ7 (1886) DQ9 (2150) DP402 (9806) DP401 (2314)	Unacceptable	
3753	65	92.1	Positive	A24 (6075)	Positive	DR53 (10896)	Unacceptable	
3966	65	95	Positive	A24 (5088)	Positive	DR9 (2222) DR11 (3671) DR53 (10519) DPw4 (7739)	Unacceptable	A*24:10 is not in SAB panel. DR11 is previous transplantation.
4661	65	89.5	Positive	A24 (2128) B56 (47) A33 (25) B18 (55) Cw1 (66) Cw7 (99)	Positive	DR9 (75) DR12 (16) DR52 (30) DR53 (862) DQ7 (110) DQ9 (77) DPw4 (175) DPw5 (121)	Unacceptable	Ab against Epitope 82LR. Ab against Epitope 48Q6.

**Table 24. Individual Virtual crossmatch results for Serum #65 vs Donor #V1**

Donor #V1 - HLA genotype: A\*24:10-A\*33:03-B\*18:02-B\*56:04-C\*01:02:01G-C\*07:04:01G/DRB1\*09:01:02G-DRB1\*12:02-DRB3\*03:01-DRB4\*01:01:01G-DQB1\*03:01-DQB1\*03:03-DPB1\*04:01:01G-DPB1\*05:01:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
5219	65		NP	No class I DSA	Positive	DR9 (653) DR53 (5809) DQ7 (742) DQ9 (655) DPw4 (1465) DPw5 (1328)	Unacceptable	HLA A*24:10, B*18:02 & C*07:04 present in the donor are not represented as allelic beads in the SAB testing panel. But HLA A24 antigen represented in the panel shows positivity with 3408 MFI
8001	65	99	Negative	No class I DSA	Positive	DR9 (1241) DR53 (11871) DQ3 (2003) DPw4 (2278)	Unacceptable	A*24:10, B*18:02, B*56:04, C*07:04 not included in LSAB panel
8050	65	88	Positive	A24 (4103)	Positive	DR9 (1743) DR53 (12760)	Unacceptable	
8080	65	93	Borderline	A24 (7738)	Positive	DR53 (10712) DQ9 (1814) DPw4 (1599)	Unacceptable	
8083	65	97	Negative	No class I DSA	Positive	DR53 (9827) DQ7 (1534) DQ9 (1827) DPw4 (2201)	Unacceptable	
8096	65		Positive	A24 (494) Cw7 (299)	Positive	DR9 (3657) DR12 (6321) DR53 (7348) DPw4 (6586)	Unacceptable	
8103	65		Borderline	A24 (1827) A2403 (1545)	Positive	DR53 (3339) DPw4 (3306)	Unacceptable	

NP = not predicted

**Table 25. Individual Virtual crossmatch results for Serum #65 vs Donor #V2**

Donor #V2 - HLA genotype:

A\*02:01-A\*31:01-B\*35:01:01G-B\*44:02:01G-C\*04:01:01G-C\*05:01/DRB1\*01:01-DRB1\*15:01-DRB5\*01:01-DQB1\*05:01-DQB1\*06:02-DPB1\*02:01-DPB1\*05:01:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	65		Positive	B44 (3392) Bw4 (4434)	Positive	DPw2 (6278)	Unacceptable	
54	65	98	Positive	B44 (4581)	Positive	DR1 (3129) DPw2 (10723)	Unacceptable	
206	65	86	Negative	No class I DSA	Negative	No DSA	Acceptable	
230	65	94	Borderline	B44 (3300) Bw4 (5500)	Borderline	DR1 (2520) DPw2 (9825)	Unacceptable	
774	65	93	Positive	B44 (2235) Bw4 (5346)	Positive	DR1 (2452) DPw2 (9368)	Unacceptable	
792	65	100	Positive	A2 (885) B44 (2122) B35 (573)	Positive	DR1 (2495) DPw2 (8286)	Unacceptable	
836	65	99	Positive	A2 (1383) B44 (1968)	Positive	DR1 (2589) DPw2 (8882)	Unacceptable	
1160	65	93	Positive	A2 (1014) B44 (2424) B35 (572) Bw4 (6944)	Positive	DR1 (1300) DPw2 (8563)	Unacceptable	
1461	65		Positive	B44 (716)	Positive	DPw2 (3045)	Acceptable	Low MFI antibody B*44:02 (612)
3224	65	96	Positive	A2 (1335) B44 (2641) Bw4 (7424)	Positive	DR1 (1917) DPw2 (8834)	Unacceptable	
3753	65	92.1	Negative	B44 (2556)	Positive	DR1 (1392) DPw2 (5432)	Unacceptable	
3966	65	95	Positive	B44 (2938)	Positive	DR11 (3671) DPA1*02 (6417)	Unacceptable	DR11 is previous transplantation
4661	65	89.5	Positive	Cw4 (136) A2 (193) B44 (621) A31 (34) B35 (142) Cw5 (100)	Positive	DR1 (75) DR15 (74) DR51 (1) DQ5 (94) DPw2 (799) DPw5 (121) DQ6 (39)	Unacceptable	Ab against Epitope 82LR
5219	65		Borderline	B44 (1035)	Positive	DPw2 (4828) DPw5 (1328)	Unacceptable	
8001	65	99	Positive	A2 (1098) B44 (2635)	Positive	DR1 (2540) DPw2 (9766)	Unacceptable	
8050	65	88	Negative	B44 (1923)	NP	DPw2 (7764)	Acceptable	Will Transplant with a single IVIG infusion.
8080	65	93	Negative	B44 (2496)	Borderline - Weak positive	DPw2 (7558)	Other-	Communication with the clinical program
8083	65	97	Negative	No class I DSA	Positive	DR1 (2360) DPw2 (8088)	Unacceptable	
8096	65		Positive	B44 (531)	Positive	DR1 (4592) DR15 (3832)	Unacceptable	
8103	65		Positive	Bw4 (1827)	Positive	DR53 (3339) DPw2 (3342)	Unacceptable	

NP = not predicted

**Table 26. Individual Virtual crossmatch results for Serum 65 vs Donor #V3**

Donor #V3 - HLA genotype:

A\*30:02-A\*68:03-B\*08:01-B\*39:05-C\*07:01:01G-C\*07:02:01G/DRB1\*03:01-DRB1\*04:07:01G-DRB3\*02:02:01G-DRB4\*01:01:01G-DQB1\*02:01-DQB1\*03:02-DPB1\*04:02:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	65		Negative	No class I DSA	Positive	DR4 (11580) DR53 (5951) DP402 (6837)	Unacceptable	
54	65	98	Negative	No class I DSA	Positive	DR4 (19425) DR53 (12999) DPw4 (10912)	Unacceptable	
206	65	86	Negative	No class I DSA	Positive	DR4 (17411) DR53 (14179)	Unacceptable	
230	65	94	Negative	No class I DSA	Positive	DR4 (19000) DR53 (14203) DP402 (6168)	Unacceptable	
774	65	93	Negative	No class I DSA	Positive	DR4 (17823) DR53 (13875) DPw4 (8458)	Unacceptable	
792	65	100	Negative	A68 (613)	Positive	DR4 (14641) DR53 (9344) DQ2 (730) DQ8 (1955) DP402 (8215)	Unacceptable	No DRB1*04:07 bead on SAB panel but other DR4 beads are positive
836	65	99	Positive	No class I DSA	Positive	DR4 (19771) DR53 (11970) DQ8 (2295) DP402 (9105)	Unacceptable	No DSA detected for the donor antigens typed and represented on the antibody panel
1160	65	93	Negative	A68 (515)	Positive	DR4 (19380) DR53 (12128) DQ2 (620) DQ8 (2653) DP402 (9472)	Unacceptable	very weak DSA against A68, however no A*68:03 bead in antibody panel
1461	65		Negative	No class I DSA	Positive	DR4 (9622) DR53 (3032) DPw4 (3053)	Acceptable	A*30:02,A*68:03,B*39:05 not in Antibody panel
3224	65	96	Negative	No class I DSA	Positive	DR4 (17734) DR53 (13140) DQ8 (2554) DP402 (9805)	Unacceptable	
3753	65	92.1	Negative	No class I DSA	Positive	DR4 (17975) DR53 (10896) DP402 (5648)	Unacceptable	No HLA-Class I donor specific antibodies detected.
3966	65	95	Negative	No class I DSA	Positive	DR4 (14029) DR11 (3671) DR53 (10519) DPw4 (7739)	Unacceptable	No Class I DSA. DRB1*04:07 is not in SAB panel.
4661	65	89.5	Negative	A30 (33) A68 (127) B39 (28) B8 (38) Cw7 (99)	Positive	DR3 ( ) DR4 (3464) DR52 (40) DR53 (862) DQ2 (76) DQ8 (108) DP402 (880)	Acceptable	Ab Ab against Epitope 96Y2, 48Q6, 57DEDP

**Table 26. Individual Virtual crossmatch results for Serum 65 vs Donor #V3**

Donor #V3 - HLA genotype:

A\*30:02-A\*68:03-B\*08:01-B\*39:05-C\*07:01:01G-C\*07:02:01G/DRB1\*03:01-DRB1\*04:07:01G-DRB3\*02:02:01G-DRB4\*01:01:01G-DQB1\*02:01-DQB1\*03:02-DPB1\*04:02:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
5219	65		Other -	No class I DSA	Positive	DR53 (5809) DQ8 (639) DPw4 (5161)	Unacceptable	HLA A*30:02, A*68:03, B*39:05 PRESENT IN THE DONOR NOT REPRESENTED AS ALLELIC BEAD IN THE SAB TESTING PANEL. HLA DRB1*04:07 PRESENT IN THE DONOR NOT REPRESENTED AS ALLELIC BEAD IN THE SAB TESTING PANEL. BUT HLA DR4 REPRESENTED IN THE PANEL SHOWS POSITIVITY WITH 15091 MFI
8001	65	99	Negative	No class I DSA	Positive	DR53 (11871) DQ8 (2367) DPw4 (9755)	Unacceptable	A*68:03, B*39:05, C*07:01 not included in LSAB panel. DRB1*04:07 not included in LSAB panel
8050	65	88	Negative	No class I DSA	Positive	DR4 (17157) DR53 (12760) DP402 (9142)	Unacceptable	
8080	65	93	Negative	No class I DSA	Positive	DR4 (12591) DR53 (10712) DQ8 (2256) DPw4 (8518)	Unacceptable	
8083	65	97	Negative	No class I DSA	Positive	DR53 (9827) DQ8 (2170) DPw4 (8046)	Unacceptable	
8096	65		Positive	Cw7 (299)	Positive	DR4 (12917) DR53 (7348) DQ8 (12980) DPw4 (6586)	Unacceptable	
8103	65		Negative	No class I DSA	Positive	DR4 (8575) DR53 (3339) DPw4 (3306)	Unacceptable	

**Table 27. Individual Virtual crossmatch results for Serum #65 vs Donor #V4**

Donor #V4 - HLA genotype:

A\*02:01-A\*03:02-B\*27:05:02G-B\*51:01-C\*01:02:01G-C\*15:02:01G/DRB1\*07:01-DRB1\*16:01-DRB4\*01:01:01G-DRB5\*02:02:01G-DQB1\*02:02-DQB1\*05:02-DPB1\*11-DPB1\*15

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	65		Positive	B27 (3791) B51 (5565) Bw4 (4434)	Positive	DR53 (5950)	Unacceptable	
54	65	98	Positive	A2 (1451) B27 (4251) B51 (6629)	Positive	DR53 (12999) DP11 (2003)	Unacceptable	
206	65	86	Positive	B27 (3146) B51 (5151)	Positive	DR53 (14179)	Unacceptable	
230	65	94	Positive	B27 (3739) B51 (6007)	Positive	DR53 (14200)	Unacceptable	
774	65	93	Positive	B27 (2123) B51 (4174) Bw4 (5346)	Positive	DR53 (13875)	Unacceptable	B*27:05 DSA
792	65	100	Positive	A2 (885) B27 (3097) B51 (4652)	Positive	DR53 (9344) DQ2 (730) DQ7 (805) DP11 (1659)	Unacceptable	
836	65	99	Positive	A2 (1383) B27 (2845) B51 (4527)	Positive	DR53 (11970) DP11 (2119)	Unacceptable	
1160	65	93	Positive	A2 (1014) B27 (3559) B51 (5538) Bw4 (6944)	Positive	DR7 (825) DR53 (12128)	Unacceptable	Potential weak DSA against DPA1*01:03 DPB1*11:01
1461	65		Positive	B27 (611) B51 (681)	Positive	DR7 (576) DR53 (3032)	Acceptable	Low MFI antibody B*27:05 (611) and B*51:01 (681)
3224	65	96	Positive	A2 (1336) B27 (3851) B51 (6461) Bw4 (7424)	Positive	DR7 (1067) DR53 (13140)	Unacceptable	
3753	65	92.1	Positive	B27 (2900) B51 (4916)	Positive	DR53 (10896)	Unacceptable	
3966	65	95	Positive	B27 (2678) B51 (4642)	Positive	DR53 (10519)	Unacceptable	
4661	65	89.5	Positive	A2 (193) B27 (826) B51 (599) A3 (37) Cw1 (66) Cw15 (56)	Positive	DR7 (111) DR16 (28) DR51 () DR53 (862) DQ2 (76) DQ5 (56) DP11 (21) DP15 (42)	Unacceptable	Ab against Epitope 82LR. Ab against Epitope 48Q6
5219	65		Borderline	B27 (1433) B51 (844)	Positive	DR7 (528) DR53 (5809)	Unacceptable	HLA A*03:02 present in the donor is not represented in the Sab testing Panel.
8001	65	99	Positive	A2 (1098) B27 (3602) B51 (5431)	Positive	DR7 (960) DR53 (11871)	Unacceptable	A*03:02 not included in LSAB panel
8050	65	88	Positive	B27 (2323) B51 (4120)	Positive	DR53 (12760)	Unacceptable	
8080	65	93	Positive	B27 (3490) B51 (5385)	Positive	DR53 (10712)	Unacceptable	
8083	65	97	Positive	B27 (1364) B51 (2225)	Positive	DR53 (9827) DP11 (1889)	Unacceptable	
8096	65		Positive	B27 (422)	Positive	DR53 (7348) DP11 (1931)	Unacceptable	
8103	65		Positive	Bw4 (1827)	Positive	DR53 (3339)	Unacceptable	



**Table 28. Individual Virtual crossmatch results for Serum #66 vs Donor #V1**

Donor #V1 - HLA genotype:

A\*24:10-A\*33:03-B\*18:02-B\*56:04-C\*01:02:01G-C\*07:04:01G/DRB1\*09:01:02G-DRB1\*12:02-DRB3\*03:01-DRB4\*01:01:01G-DQB1\*03:01-DQB1\*03:03-DPB1\*04:01:01G-DPB1\*05:01:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	66		Positive	B56 (7679) Cw1 (2438) Cw7 (9035)	Positive	No class II DSA	Unacceptable	
54	66	88	Positive	B56 (5989) Cw1 (2004) Cw7 (9815)	Negative	No class II DSA	Unacceptable	
206	66	44	Positive	B56 (10479)	Negative	No class II DSA	Unacceptable	
230	66	73	Positive	B56 (14508) Cw1 (4839) Cw7 (17543)	Negative	No class II DSA	Unacceptable	
774	66	71	Positive	B56 (10123) Cw7 (12785)	Negative	No class II DSA	Unacceptable	
792	66	99	Positive	B56 (8585) Cw1 (2609) Cw7 (9672)	Positive	DPw5 (680)	Unacceptable	No B*56:04 bead on SAB panel, but other B*56 bead is positive. Patient is DPB1*05
836	66	93	Positive	B56 (9834) Cw1 (2980) Cw7 (9595)	Positive	No class II DSA	Unacceptable	No DSA detected for donor antigens typed and represented on the antibody panel. Only one result is reported for both T and B cell VXM.
1160	66	47	Positive	B56 (9030) Cw1 (1797)	Positive	No class II DSA	Unacceptable	
1461	66		Negative	B56 (2100) Cw7 (2196)	Negative	No class II DSA	Acceptable	A*24:10,B*18:02,B*56:04,C*07:04 not in Antibody panel.
2400	66	87	Positive	B56 (10709) Cw1 (2793) Cw7 (13236)	Negative	No class II DSA	Unacceptable	I - 87%, II - 0%
3224	66	89	Positive	B56 (10015) Cw1 (2754) Cw7 (9618)	Positive	No class II DSA	Unacceptable	
3753	66	92.7	Positive	B56 (9054) Cw1 (4099) Cw7 (14299)	Positive	No class II DSA	Unacceptable	No HLA-Class II donor specific antibodies detected against this donor.
3966	66	92	Positive	B56 (10419) Cw1 (4895)	Negative	No class II DSA	Unacceptable	B*56:04 is not in SAB panel.
4661	66	70.2	Positive	A24 (159) B56 (2467) A33 (124) B18 (151) Cw1 (318) Cw7 (1794)	Positive	DR9 (52) DR12 (56) DR52 (78) DR53 (72) DQ7 (112) DQ9 (101) DPw4 (542) DPw5 (214)	Unacceptable	Ab against Epitope 65QIA, 193PL3

**Table 28. Individual Virtual crossmatch results for Serum #66 vs Donor #V1**

Donor #V1 - HLA genotype:

A\*24:10-A\*33:03-B\*18:02-B\*56:04-C\*01:02:01G-C\*07:04:01G/DRB1\*09:01:02G-DRB1\*12:02-DRB3\*03:01-DRB4\*01:01:01G-DQB1\*03:01-DQB1\*03:03-DPB1\*04:01:01G-DPB1\*05:01:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
5219	66		Other	No class I DSA	Negative	No class II DSA	-	HLA A*24:10, B*18:02 & C*07:04 present in the donor are not represented as allelic beads in the SAB testing panel. But HLA A24 antigen represented in the panel shows positivity with 3408 MFI
8001	66	95	Positive	Cw1 (3193)	Borderline		Unacceptable	A*24:10, B*18:02, B*56:04, C*07:04 not included in LSAB panel
8050	66	89	Positive	B56 (10528) Cw1 (3491) Cw7 (14288)	Positive	No class II DSA	Unacceptable	Positive B cell prediction due to Class I
8080	66	88	Positive	B56 (8954) Cw1 (2002) Cw7 (6258)	Positive		Unacceptable	
8083	66	96	Positive	Cw1 (4889)	Positive	DPw5 (1853)	Unacceptable	
8096	66		Positive	B56 (3127)	Negative	No class II DSA	Unacceptable	
8103	66		Borderline	B56 (1969) Cw7 (3129)	Negative	No class II DSA	Acceptable	CONFIRM WITH CELL-BASED CROSSMATCH. ANTIBODIES DETECTED B*56:01, C*07:01, C*07:02.

**Table 29. Individual Virtual crossmatch results for Serum #66 vs Donor #V2**

Donor #V2 - HLA genotype:

A\*02:01-A\*31:01-B\*35:01:01G-B\*44:02:01G-C\*04:01:01G-C\*05:01/DRB1\*01:01-DRB1\*15:01-DRB5\*01:01-DQB1\*05:01-DQB1\*06:02-DPB1\*02:01-DPB1\*05:01:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	66		Negative	No class I DSA	Negative	No class II DSA	Acceptable	
54	66	88	Negative	No class I DSA	Negative	No class II DSA	Acceptable	
206	66	44	Negative	No class I DSA	Negative	No class II DSA	Acceptable	
230	66	73	Negative	No class I DSA	Negative	No class II DSA	Acceptable	
774	66	71	Negative	No class I DSA	Negative	No class II DSA	Acceptable	
792	66	99	Negative	Cw5 (852)	Negative	DPw5 (680)	Acceptable	Patient is DPB1*05
836	66	93	Negative	No class I DSA	Negative	No class II DSA	Acceptable	
1160	66	47	Negative	No class I DSA	Negative	No class II DSA	Acceptable	
1461	66		Negative	No class I DSA	Negative	No Class II DSA	Acceptable	
3224	66	89	Negative	No class I DSA	Negative	No Class II DSA	Acceptable	
								No HLA-Class I donor specific antibodies detected. No HLA-Class II donor specific antibodies detected against this donor.
3753	66	92.7	Negative	No class I DSA	Negative	No Class II DSA	Acceptable	
3966	66	92	Positive	Cw5 (1912)	Negative	No Class II DSA	Unacceptable	
4661	66	70.2	Negative	Cw4 (320) A2 (119) B44 (121) A31 (125) B35 (160) Cw5 (244)	Negative	DR1 (26) DR15 (150) DR51 (62) DQ5 (78) DPw2 (206) DPw5 (214) DQ6 (47)	Acceptable	
5219	66		Negative	No class I DSA	Negative	No class II DSA	Acceptable	
8001	66	95	Borderline	Cw5 (1033)	Negative	No class II DSA	Acceptable	
8050	66	89	Negative	Cw5 (1009)	Negative	No class II DSA	Acceptable	Transplant with no IVIG
8080	66	88	Negative	No class I DSA	Negative	No class II DSA	Acceptable	
8083	66	96	Positive	Cw5 (1621)	Positive	DPw5 (1853)	Unacceptable	
8096	66		Negative	No class I DSA	Negative	No class II DSA	Acceptable	
8103	66		Negative	No class I DSA	Negative	No class II DSA	Acceptable	

**Table 30. Individual Virtual crossmatch results for Serum #66 vs Donor #V3**

Donor #V3 - HLA genotype:

A\*30:02-A\*68:03-B\*08:01-B\*39:05-C\*07:01:01G-C\*07:02:01G-DRB1\*03:01-DRB1\*04:07:01G-DRB3\*02:02:01G-DRB4\*01:01:01G-DQB1\*02:01-DQB1\*03:02-DPB1\*04:02:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	66		Negative	Cw7 (9035)	Negative	No Class II DSA	Acceptable	
54	66	88	Positive	Cw7 (9815)	Negative	No Class II DSA	Unacceptable	
206	66	44	Negative	No class I DSA	Negative	No Class II DSA	Acceptable	
230	66	73	Positive	Cw7 (17544)	Negative	No Class II DSA	Unacceptable	
774	66	71	Positive	Cw7 (12785)	Negative	No Class II DSA	Unacceptable	
792	66	99	Positive	B8 (377) Cw7 (9672)	Positive	No Class II DSA	Unacceptable	
836	66	93	Positive	Cw7 (11797)	Positive	No class II DSA	Unacceptable	No DSA detected for donor antigens typed and represented on the antibody panel
1160	66	47	Negative	see comments	Negative	No class II DSA	Acceptable	Antibody against Cw7 was detected by single antigen bead assays( SAB),However is negative by phenotype beads. therefore it is false positive by SAB asasys.
1461	66		Negative	Cw7 (2196)	Negative	No class II DSA	Acceptable	A*30:02,A*68:03,B*39:05 not included in Antibody panel. DRB1*04:07 not included in Antibody Panel.
3224	66	89	Positive	Cw7 (9618)	Positive	No class II DSA	Unacceptable	Final crossmatch recommened to determine if both T and B cell positive. B cell positive due to Class I antibody.
3753	66	92.7	Positive	Cw7 (14299)	Positive	No class II DSA	Unacceptable	No HLA-Class II donor specific antibodies detected against this donor.
3966	66	92	Positive	Cw7 (12169)	Negative	No Class II DSA	Unacceptable	
4661	66	70.2	Positive	A30 (124) A68 (125) B39 (126) B8 (106) Cw7 (1794)	Positive	DR3 (55) DR4 (124) DR52 (76) DR53 (72) DQ2 (96) DQ8 (76) DP402 (354)	Unacceptable	Ab Ab against Epitope 193PL3
5219	66		Positive	Cw7 (3467)	Negative	No Class II DSA	Unacceptable	HLA A*30:02, A*68:03, B*39:05 PRESENT IN THE DONOR NOT REPRESENTED AS ALLELIC BEAD IN THE SAB TESTING PANEL. HLA DRB1*04:07 PRESENT IN THE DONOR NOT REPRESENTED AS ALLELIC BEAD IN THE SAB TESTING PANEL.

**Table 30. Individual Virtual crossmatch results for Serum #66 vs Donor #V3**

Donor #V3 - HLA genotype:

A\*30:02-A\*68:03-B\*08:01-B\*39:05-C\*07:01:01G-C\*07:02:01G-DRB1\*03:01-DRB1\*04:07:01G-DRB3\*02:02:01G-DRB4\*01:01:01G-DQB1\*02:01-DQB1\*03:02-DPB1\*04:02:01G

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
8001	66	95	Positive	Cw7 (12491)	Positive	No class II DSA	Unacceptable	A*68:03, B*39:05, C*07:01, DRB1*04:07 not included in LSAB panel
8050	66	89	Positive	Cw7 (14288)	Positive	No class II DSA	Unacceptable	Positive B cell prediction due to Class I
8080	66	88	Positive	Cw7 (18093)	Positive	No class II DSA	Unacceptable	
8083	66	96	Positive	B27 (10835) Cw7 (14719)	Negative	No class II DSA	Unacceptable	
8096	66		Negative	No class I DSA	Negative	No class II DSA	Acceptable	No DSA detected
8103	66		Positive	Cw7 (3129)	Negative	No class II DSA	Unacceptable	

**Table 31. Individual Virtual crossmatch results for Serum #66 vs Donor #V4**

Donor #V4 - HLA genotype:

A\*02:01-A\*03:02-B\*27:05:02G-B\*51:01-C\*01:02:01G-C\*15:02:01G/DRB1\*07:01-DRB1\*16:01-DRB4\*01:01:01G-DRB5\*02:02:01G-DQB1\*02:02-DQB1\*05:02-DPB1\*11-DPB1\*15

Center	Patient	CPRA	Virtual T Cell Prediction	Class I DSA (MFI)	Virtual B-cell prediction	Class II DSA (MFI)	Risk Assessment	Comments
23	66		Positive	B27 (7057) A3 (3699) Cw1 (2577) Cw15 (2749)	Positive	No class II DSA	Unacceptable	
54	66	88	Positive	B27 (5705) A3 (3045) Cw1 (2004) Cw15 (2462)	Negative	No class II DSA	Unacceptable	
206	66	44	Positive	B27 (9613) A3 (4983)	Negative	No class II DSA	Unacceptable	
230	66	73	Positive	B27 (12512) A3 (6880) Cw1 (4839) Cw15 (5648)	Negative	No class II DSA	Unacceptable	
774	66	71	Positive	B27 (10157) A3 (4788)	Negative	No class II DSA	Unacceptable	
792	66	99	Positive	B27 (7457) A3 (4000) Cw1 (2609) Cw15 (3051)	Positive	No class II DSA	Unacceptable	No A*03:02 bead on SAB panel but other A*03 bead is positive.
836	66	93	Positive	B27 (8358) A3 (4215) Cw1 (2980) Cw15 (3620)	Positive	No class II DSA	Unacceptable	No DSA detected for donor antigens typed and represented on the antibody panel
1160	66	93	Positive	B27 (7810) A3 (4155) Cw1 (1797) Cw15 (2167)	Positive	No class II DSA	Unacceptable	
1461	66		Positive	B27 (2097) A3 (1258)	Negative	No class II DSA	Unacceptable	
3224	66	89	Positive	B27 (8836) A3 (4310) Cw1 (2753) Cw15 (3078)	Positive	No class II DSA	Unacceptable	likely B positive due to Class I antibody
3753	66	92.7	Positive	B27 (7876) A3 (5457) Cw1 (4099) Cw5 (4647)	Positive	No class II DSA	Unacceptable	No HLA-Class II donor specific antibodies detected against this donor.
3966	66	92	Positive	B27 (9263) A3 (4360) Cw1 (4945)	Negative	No class II DSA	Unacceptable	A*03:02 is not in SAB panel.
4661	66	70.2	Positive	A2 (119) B27 (2104) B51 (218) A3 (1310) Cw1 (318) Cw15 (220)	Positive	DR7 (48) DR16 (83) DR51 (61) DR53 (72) DQ2 (82) DQ5 (44) DP11 (140) DP15 (52)	Unacceptable	Ab against Epitope 161D, 65QIA
5219	66		Positive	B27 (3389)	Negative	No class II DSA	Unacceptable	
8001	66	95	Positive	B27 (9302) Cw1 (3193) Cw15 (3669)	Positive	No class II DSA	Unacceptable	A*03:02 not included in LSAB panel
8050	66	89	Positive	B27 (9006) A3 (4386) Cw1 (3491) Cw15 (3442)	Positive	No class II DSA	Unacceptable	Positive B cell prediction due to Class I
8080	66	88	Positive	B27 (7563) A3 (2127) Cw1 (2002) Cw15 (2296)	Positive	No class II DSA	Unacceptable	
8083	66	96	Positive	B27 (10835) Cw1 (4889) Cw15 (4767)	Negative	No class II DSA	Unacceptable	
8096	66		Positive	B27 (4301) A3 (3523) Cw15 (3945)	Negative	No class II DSA	Unacceptable	
8103	66		Positive	B27 (1829)	Negative	No class II DSA	Unacceptable	