

# Report of the 9<sup>th</sup> Flow and Virtual Crossmatch Exchange January 9, 2017

Cells	49-50
Serum	51-54

For the 9<sup>th</sup> Flow and Virtual Crossmatch Exchange, labs performed the actual flow crossmatch on a virtual donor-patient pair (**Donor V4 vs. MX-047**) from Exchange 8. A comparison of virtual crossmatch predictions against actual crossmatch outcome (**cell 49 vs. serum 51**) are summarized in part 1 of this report. Part 2 summarizes the flow cytometric crossmatch

results for 2 cells (**cell nos. 49 - 50**) against 4 sera (**serum nos. 51 - 54**), and examines the single antigen data for the 4 sera. Finally, in part 3, the virtual crossmatch predictions for serum 53 and serum 54 against 4 potential donors (V1 - V4) are examined.

## Part 1

### Actual Flow Cytometric Crossmatch vs. Virtual Crossmatch

Serum (patient) MX-047 from Flow Crossmatch Exchange 8 (June, 2016) was re-examined as serum 51 in this present study. Twenty labs performed the actual flow crossmatch (FXM) on serum 51 against cell 49 (virtual donor V4 from Exchange 8). Individual FXM results for this cell-serum pair are summarized in Table 1a. T-cell crossmatch results were reported as positive by 14

labs and as negative by 4 labs. Two labs did not report definitive results. Class I DSA (A11) was reported against cell 49, with medium MFI = 3670. Similar results were reported for the B-cell crossmatch, as 13 labs reported it as positive, while 4 reported it as negative. Anti-DQ7 (4536) and anti-DR52(1463) reactivity was reported against cell 49.

**Table 1a. Individual Actual Flow crossmatch results and DSA reported for Cell #049 vs. Serum #051**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)
23	10	50			Positive	A11(4229)	40	86			Positive	DQ7(4562), DR52(1070)
206	2.98	10.4	2.31		Negative	A11(4743)	4.94	35.6	5.62		Positive	
615	375	35			Positive	NT	434	61			Positive	NT
774	50	61			Positive	A11(2984)	100	193			Positive	DQ7(4509)
792	52	125			Positive	A11(3670), A24(594)	106	181			Positive	DQ7(5656), DR52(1246)
836	70	63			Undetermined	A11(2511), A1101(2065)	135	82			Negative	DQ7(3898)
1160	90	126			Positive	A11(2468)	120	221			Positive	DQ7(3311)
2400	40	148			Positive	A11(4189)	80	222			Positive	DQ7(4657)
3135	1,2	1149	0,9		Negative	NT					NT	NT
3224	70	75			Positive	A1101(4338)	140	132			Positive	DQ7(6622), DR52(1706)
3625	40	72	N/A	N/A	Positive	A1101(3131)	40	99	N/A	N/A	Positive	DQ7(4200), DR52(1040)
3753	50	164			Positive	A11(4458)	100	232			Positive	DQ7(6203), DR52(1973)
3966	40	76			Positive	NT	70	49			Negative	NT
4345					Positive	NT					Positive	NT
4661	20	35.87			Positive	A11(676), A1101(676)	20	38.54			Positive	DQ7(904)
5219					NT	NT					NT	NT
8001	50	105			Positive	A11(4544)	100	187			Positive	DQ7(6480), DR52(1463)
8050	50	74		2732	Positive	A11(4113)	120	106		8293	Negative	DQ7(6393), DR52(1860)
8083	90	29			Negative	A11(2967)	150	42			Negative	DQ7(4383)
8096	50	33.78			Negative	A11(2313), B48(2003)	NT				NT	DQ7(1169)

Flow crossmatch results for cell 49 against serum 51 are summarized in Table 1b and compared alongside the virtual crossmatch results for the same cell-serum pair in Exchange 8. For Exchange 8, 15 labs submitted virtual crossmatch predictions for virtual donor 4 (V4) against serum 47. Thirteen labs predicted the T-cell crossmatch to be positive and 2 predicted it to be negative. Of the 2 labs predicting a negative crossmatch, 1 noted it

as borderline negative. Anti-A11 reactivity was reported at the time against donor V4, with MFI = 3397. For Virtual B-cell predictions, 13 labs predicted it to be positive, while 2 predicted it to be negative. One of the labs predicting a negative B-cell crossmatch noted it as borderline negative and the other reported no class II DSA as being present. Anti-DQ7 (5026) reactivity was reported against donor V4 in exchange 8.

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

Exchange 009					Exchange 008				
Actual Flow Crossmatch					Virtual Crossmatch				
Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results	Donor	Serum no.	#Labs	T-cell Prediction	B-cell Prediction
49	51	15	POS (11) NEG (3) Undetermined (1)	POS (10) NEG (4) NT (1)	V4	47	15	POS (13) NEG (2)	POS (13) NEG (2)
< 80% agreement									

A side by side comparison of virtual predictions for V4 vs. serum 47 from Exchange 8 against actual flow crossmatch results for the same donor pair (cell 49 vs 51) from Exchange 9 are shown in Table 1c and 1d. All 15 labs reporting virtual crossmatch predictions in Exchange 8 also reported actual flow crossmatch results in this present study. Mixed results were observed between virtual predictions and actual flow crossmatch outcomes. Of the 13 labs that had predicted the T-cell crossmatch to be positive, 9 re-

ported the actual crossmatch as positive in agreement with virtual predictions, 3 reported it as negative, and 1 noted it as undetermined. In turn, 2 labs predicting a negative crossmatch, reported the actual crossmatch as positive. For the B-cell crossmatch, a similar pattern was observed among predictions and actual outcome. Nine out of 13 labs predicting a positive crossmatch, reported the actual crossmatch as positive as well. The remaining 4 labs reported the actual crossmatch as negative.

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

		T-cell Virtual XM					B-cell Virtual XM		
		+	-	∅			+	-	∅
Actual Flow XM	+	9	2	0	Actual Flow XM	+	9	1	0
	-	3	0	0		-	4	0	0
	∅	1	0	0		∅	-	1	0

n = number of labs

+ = positive

- = negative

∅ = uncertain/not typed

**Table 1d. Individual Actual Flow crossmatch results vs. Virtual crossmatch results**

Exchange 009					Exchange 008				
Actual Flow Crossmatch - Serum 51 vs. Cell 49					Virtual Crossmatch - Patient MX-047 vs. Donor 4				
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	A11(4229)	Positive	DQ7(4562), DR52(1070)	23	Positive	A11(3300)	Positive	DR52(1180), DQ7(3500)
206	Negative	A11(4743)	Positive		206	Positive	A11(3458)	Positive	DQ7(5666)
774	Positive	A11(2984)	Positive	DQ7(4509)	774	Positive	A11(3572)	Positive	DQB1*03:01(5570)
792	Positive	A11(3670), A24(594)	Positive	DQ7(5656), DR52(1246)	792	Positive	A*11:01(2644), A*24:02(315)	Positive	DQB1*03:01(4335), DPB1*03:01(327)
836	Undetermined	A11(2511), A1101(2065)	Negative	DQ7(3898)	836	Positive		Positive	
1160	Positive	A11(2468)	Positive	DQ7(3311)	1160	Positive	A11(3634)	Positive	DQ7(5026)
2400	Positive	A11(4189)	Positive	DQ7(4657)	2400	Positive	A11(4722)	Positive	DQ7(4535)
3224	Positive	A1101(4338)	Positive	DQ7(6622), DR52(1706)	3224	Positive	A11(4230)	Positive	DQ7(5530)
3753	Positive	A11(4458)	Positive	DQ7(6203), DR52(1973)	3753	Negative/ Borderline	A11(3093)	Negative/ Borderline	DQ7(4716)
3966	Positive	NT	Negative	NT	3966	Positive	A11(4175)	Positive	DQ7(5432), DR52(1604)
4661	Positive	A11(676), A1101(676)	Positive	DQ7(904)	4661	Positive	A*11:01(618)	Positive	DQB1*05:01/ DQB1*03:01(4682)
8001	Positive	A11(4544)	Positive	DQ7(6480), DR52(1463)	8001	Positive	A*11:01(4585)	Positive	DQB1*03:01(8761)
8050	Positive	A11(4113)	Negative	DQ7(6393), DR52(1860)	8050	Negative	A11(2610)	Positive	DQ7(4477)
8083	Negative	A11(2967)	Negative	DQ7(4383)	8083	Positive	A11(3412)	Positive	DQ7(5254)
8096	Negative	A11(2313), B48(2003)	NT	DQ7(1169)	8096	Positive	A11(1352), B48(1322), B60(1591), Cw4(1688)	Negative	No DSA

Labs were consistent in the reporting of DSA and DSA strength from exchange 8 to exchange 9. For class I, anti-A11(A\*11:01) reactivity was reported against donor V4 in Exchange 8. MFI values were reported as 3397 for A11 and 3188 for A\*11:01. In Exchange 9, the reported MFI values were 3670 and 2598, respectively. For class II, anti-DQ7(DQB1\*03:01)

reactivity was reported against donor V4 in exchange 8, with median MFI = 5026. Weak reactivity to DR52 was also reported by 2 labs, with MFI = 1124. In this present study, anti-DQ7 reactivity was reported with MFI = 4536. More labs (n=6) reported anti-DR52(1463) reactivity against donor V4 the second time around.

## Part 2

# Flow Cytometric Crossmatch

Flow crossmatch results for cell 49 and 50 versus serum samples 51 - 54 are summarized in Table 2 and individual laboratory results, along with

reported DSA for each serum sample, are listed in tables 4 - 11.

**Cell 49.** The phenotype for this sample from a Filipino donor is A\*11:01-A\*24:02-B\*40:10(B60)-B\*48:01-C\*04:03-C\*08:01:01G-DRB1\*15:02-DRB1\*11:01-DRB3\*02:02:01G-DRB5\*01:01-DQB1\*05:02-DQB1\*03:01-DPB1\*01:01:01G-DPB1\*03:01:01G. Good agreement (>80%) was achieved for 3 of the 4 T-cell crossmatch pairs. One pair (cell 49 vs. serum 52) was reported as negative by 18/19 labs. For the other 2 pairs (cell 49 vs. serum 53 and cell 49 vs. serum 54), the T-cell crossmatch was reported as positive by 18/19 and 16/19 labs, respectively. Against serum 51, however, agreement was <80%, as 14 labs reported the T-cell crossmatch as positive and 4 reported it as negative. For the B-cell crossmatch, labs reported the crossmatch for this cell against sera nos. 52 – 54 as positive in complete agreement. In contrast, no agreement was reached for the B-cell crossmatch of this cell against serum 51. Thirteen labs reported the B-cell crossmatch as positive, while 4 reported it as negative.

**Cell 50.** The phenotype for this sample from a Hispanic donor is A\*02:01-A\*02:06-B\*40:01-B\*40:02:01G-C\*03:04-DRB1\*14:02-DRB1\*15:01-DRB3\*01:01:02G-DRB5\*01:01-DQB1\*03:01-DQB1\*06:02-DPB1\*04:01:01G-DPB1\*04:02:01G. Overall, good agreement was achieved for this cell against all 4 sera. Against serum 51 and serum 53, the T-cell crossmatch was reported as positive by 17/19 and 18/19 labs, respectively. Against serum 52 and serum 54, it was reported as negative by 17/19 labs. For the B-cell crossmatch, labs reported it as positive against all 4 sera. The crossmatches against serum 53 and serum 54 were reported in complete agreement. Against serum 51, 2 labs reported the crossmatch as negative instead of positive. Against serum 52, 1 lab reported the crossmatch as negative instead of positive.

**Table 2. Summary of Flow Crossmatch Exchange #009 results for Cell #049-#050 vs. Serum #051-#054**

Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results	Cell no.	Serum no.	#Labs	T-cell Results	B-cell Results
49	51	20	POS(14) NEG(4) NT(2)	POS(13) NEG(4) NT(3)	50	51	20	POS(17) NEG(2) NT(1)	POS(15) NEG(2) NT(3)
49	52	20	NEG(18) POS(1) NT(1)	POS(17) NT(3)	50	52	20	NEG(17) POS(2) NT(1)	POS(15) NEG(1) NT(4)
49	53	20	POS(18) NEG(1) NT(1)	POS(17) NT(3)	50	53	20	POS(18) NEG(1) NT(1)	POS(17) NT(3)
49	54	20	POS(16) NEG(3) NT(1)	POS(17) NT(3)	50	54	20	NEG(17) POS(2) NT(1)	POS(17) NT(3)

< 80% agreement

# Antibody Identification

Class I and class II Luminex single antigen results for serum samples 51 - 54 are summarized in Tables 12 - 15 and individual results for each

participating laboratory are listed in Tables 16 –23.

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**Serum 51** was previously examined as serum 47 (Exchange 8). In this present study, class I and class II DSA were reported against cell 49 and cell 50. Reactivity to A11 (3670) and A1101 (2598) were reported by labs against cell 49. One lab reported additional reactivity to B48 (2003) and another reported very weak anti-A24 (594) reactivity. Against cell 50, a single DSA was reported, with all 15 labs reporting reactivity to A2 (7215). For class II, reactivity to DQ7 (4536) was reported against each cell. A number of labs (n=7), reported additional weak anti-DR52 (1463) reactivity against cells 49 and 50.

**For serum 52**, no class I DSA were reported against cell 49 or cell 50. Several labs reported this serum as negative for class I, while 2 others reported very weak (MFI<1000) class I reactivity. For class II, however, multiple class II DSA were reported against each cell. Against cell 49, reactivity to DR11, DQ7, DR52, and DR51 were all reported, with respective median MFI = 7573, 3161, 4666, and 2002. Against cell 50, reactivity to DR14 (4305), DQ7 (3161), DR52 (4666), and DR51 (2002) was reported.

## Conclusion:

For the **T-cell flow crossmatch**, good agreement (>80%) was achieved for 7 of 8 crossmatch pairs. Three were reported as negative, with 1 or 2 discrepancies. Two were reported as positive with 2 or 3 discrepancies, and 2 were reported as positive, with only 1 discrepancy. In the case of the positive crossmatches with a single discrepancy, strong class I DSA (MFI > 9900) were reported in each case. For serum 51 against cell 49 in which agreement was < 80%, 14 labs reported the T-cell crossmatch as positive, while 4 reported it as negative. Anti-A11 (A1101) reactivity was reported against cell 49 with MFI < 5000. Two of the labs reporting the crossmatch as negative, reported an MFI strength of < 3000. This suggests that when only a single DSA is present and the strength of the DSA is weak to moderate, the sensitivity of the T-cell crossmatch is variable among labs.

For **serum 53**, strong class I and class II DSA were reported against cell 49 and cell 50. Multiple class I DSA (B48, B60, A11, A1101, and A24) were reported against cell 49, with respective MFI = 10300, 9906, 3834, 2974, and 2091. Against cell 50, anti-B60 (9906) and -B61 (6100) reactivity was reported. Strong class II reactivity to DR15 (10589) and DR51 (12227) was reported against both cell 49 and cell 50. Additional strong reactivity to DQ6 (10877) was also reported against cell 50. Four labs also reported weak DP401 (1763) and DPw4 (1806) reactivity against cell 50.

**Serum 54** was reported as positive for class I DSA against cell 49 only. Anti-A11 and -A1101 reactivity was reported, with respective MFI = 4049 and 3055. For class II, reactivity to DR11 (9317), DR52 (5293), and DQ7 (1858) was reported against cell 49. Against cell 50, strong reactivity to DP antigens, DP402 (9559) and DPw4 (11050), was reported by labs. Additional reactivity to DR14 (3255), DR52 (5293), DQ7 (1858), and DQ6 (3413) was also reported against cell 50.

For the **B-cell flow crossmatch**, good agreement was achieved for all but 1 of the 8 crossmatch pairs. Five of the 7 were reported as positive in complete agreement. In each case, strong class I and/or class II DSA were present. No agreement was reached for serum 51 against cell 49, as weak to moderate class I (A11) and class II (DQ7) DSA were reported, with respective MFI = 3670 and 4536. Thirteen labs reported the B-cell crossmatch as positive, while 4 reported it as negative. In previous studies, the sensitivity of the B-cell crossmatch was observed to be variable in the absence of class I DSA when class II DSA strength was weak. In this present study, a similar pattern is observed in the presence of a single class I and class II DSA, when the strength of the DSA was weak to moderate.

## Part 3

# Virtual Crossmatch Paper Challenge

Virtual crossmatch predictions for donor V1 - V4 against sera (patient) samples 47 and 48 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 more than half (n = 6) of the virtual donor-patient pairs. Two of the virtual pairs (V1 vs. serum 53 and V4 vs. serum 54) were reported with no discrepancies, as the presence of multiple class I DSA were detected with MFI values ranging from 1854 to 6100. For the other 4 donor-patient pairs, 1 or 2 labs predict the T-cell crossmatch to be borderline or weak as class I DSA with MFI values < 5000 were reported. For donor V3 against serum 53 and serum 54, no agreement was reached for either patient-donor pair. The presence of weak class I DSA (MFI <4000) may have contributed to the variability observed in the predictions. Several labs predicting the crossmatch to be negative in each case, reported no class I DSA were present.

For the virtual **B-cell crossmatch**, 6 were reported as positive with good agreement. In each case, multiple class II and/or class I DSA were present. Predictions were discordant among labs for the remaining 2 donor-patient pairs. For donor V2 against serum 53, the presence of weak class I DSA (MFI < 5000) and the absence of class II DSA resulted in 8 labs predicting the crossmatch to be positive, 4 predicting it to be negative, and 1 predicting borderline results. Two of the labs reporting the crossmatch as positive reported the presence of weak reactivity to DRB4\*01:01 (519) in addition to class I DSA. For donor V4 against serum 54, 10 labs predict the crossmatch to be positive and 3 predict it to be negative. Labs reporting the crossmatch as negative reported the presence of only a single class I DSA and the absence of class II DSA.

**Table 3. Summary of Virtual Crossmatch Exchange #009 results (Serum #053-#54 versus Donor #001 - #004)**

Donor	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Predicted Risk Assessment	Donor	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Predicted Risk Assessment
V1	53	13	POS(13)	POS(12) NEG(1)	Unacceptable (13)	V2	53	13	POS(11) Borderline(2)	POS(8) Negative(4) Borderline(1)	Unacceptable(9) Acceptable(4)
V1	54	13	POS(12) Borderline(1)	POS(12) NEG(1)	Unacceptable (13)	V2	54	13	POS(12) Borderline(1)	POS(13)	Unacceptable(13)
Donor	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Predicted Risk Assessment	Donor	Serum no.	#Labs	T-cell Prediction	B-cell Prediction	Predicted Risk Assessment
V3	53	13	NEG(8) POS(4) Borderline(1)	POS(12) NEG(1)	Unacceptable(12) Acceptable(1)	V4	53	13	NEG(11) POS(1) Borderline(1)	POS(11) NEG(1) Undetermined(1)	Unacceptable(11) Acceptable(2)
V3	54	13	POS(6) NEG(5) Borderline(2)	POS(13)	Unacceptable(12) Acceptable(1)	V4	54	13	POS(13)	POS(10) NEG(3)	Unacceptable(12) Acceptable(1)

< 80% agreement

Overall, discordance among positive predictions was observed when a single DSA with MFI below 4000 were reported. As MFI strength decreased, greater variability was observed as some labs reported the presence of DSA and others did not depending on cut off values of individual labs. However, when multiple DSA of weak to moderate strength were present, predictions were observed to be less discordant.

Good agreement was achieved overall for renal transplant risk assessments. For all but 1, assessments were reported with little (1 or 2) or no discrepancies. In the case of donor 2 versus serum 53, in which no agreement was reached, assessments were as mixed as B-cell predictions. Nine assessed the risk as unacceptable while 4 assessed it as acceptable. Two

of the labs accessing the risk as acceptable noted the transplant may proceed with desensitization or immunosuppression.

With respect to CPRA values, greater variability was observed for serum 54 than for serum 53. For serum 53, CPRA values ranged from 91% to 100%, with 6 labs reporting CPRA values  $\geq$  98%. Interestingly, for serum 54, reported values were much broader, ranging from 79% to 100%. Strong class I and DR reactivity were reported for each serum sample, however for serum 54, additional reactivity to DPw4 (11050) was also reported.

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#### **Patient 1 (Serum 53):**

*History:* Individual is a 36-year-old male being evaluated for his second transplant. The patient's HLA type is A2-A23-B51-B62-Cw9-Cw16/DR4-DR13-DR52-DR53-DQ7-DP2-DP6. The HLA typing of his first transplant is A2-B62-B72-Cw2-Cw9/DR4-DR13-DR52-DR53-DQ7. DP typing of the previous donor is unknown.

For patient 1, class I and class II DSA were reported against **donor V1**. Reactivity to A11 (A\*11:01), A24, and B61 (B\*40:06) were reported, with respective MFI = 3834, 2091, and 6100. For class II, reactivity to DQB1\*03:03(DQ9) was reported against this donor, with MFI values ranging from 1389 - 7046. For the virtual crossmatch, all 13 labs predict the T-cell crossmatch to be positive and all but 1 to predict the B-cell crossmatch to be positive as well. Predicted renal transplant risk assessment was reported in complete agreement as unacceptable by all 13 labs.

Against **donor V2**, weak anti-A1 (3623) reactivity was reported. Additional reactivity to Cw7 (3073) was also reported by 4 labs. The reporting of class II DSA varied among labs as several labs reported the presence of weak class II reactivity, while the remainder noted no class II DSA were present. Eleven labs predict the T-cell crossmatch to be positive and 2 predict borderline results. One lab predicting a positive T-cell outcome noted it as weak. Risk assessments also varied among labs, with 9 accessing the risk as unacceptable, 2 accessing it as acceptable, and 2 accessing it as acceptable with immunosuppression.

Weak anti-Cw7 reactivity (3073) was reported against **donor V3** by a number (n=8) of labs. Several other labs reported no class I DSA were present. By contrast, the presence of strong class II DSA (DR15, DR51, DQ8) were reported against donor V3, with respective MFI = 10589, 12227, and 4680. Consequently, T-cell predictions varied among labs with 8 predicting a negative crossmatch, 4 predicting it to be positive, and 1 predicting borderline results. For the Virtual B-cell crossmatch, 12 out of 13 predict it to be positive. Predicted transplant risk assessment was reported as unacceptable by 12 labs. One lab accessing the risk as acceptable reported no class I or class II DSA were present against donor V3.

Against donor V4, the reporting of class I DSA were mixed among labs. Reactivity to Cw7 (3073) and/or B63 (MFI < 1100) was reported by a number (n=5) of labs. The remainder of the labs reported no class I DSA were present. For class II, all but 1 lab reported anti-DQ8 (4680) and or DP4(DPB1\*04:01) reactivity against this donor. For the virtual T-cell crossmatch, 11 labs predict it to be negative, 1 predicts it to be positive, and 1 predicts it to be borderline. For virtual B-cell predictions, 11 of 13 labs predict it to be positive. Among the remaining 2 predictions, 1 predicts a negative B-cell crossmatch in the absence of class I and class II DSA, and the other is unable to make a determination. Renal transplant risk was accessed as unacceptable by 11 labs and acceptable by 2 labs.

**Patient 2 (Serum 54):** *History:* Individual is a 45-year old female being evaluated for her second transplant. The patient's HLA type is A1-A24-B8-B62-Cw7-Cw9/DR4-DR8-DR53-DQ4-DQ8. The HLA typing of her first transplant is A1-A24-B8-B62-Cw7-Cw2/DR4-DR8-DR53-DQ4-DQ8.

For patient 2, class I (A11) and class II (DR9, DP2) DSA were reported against **donor V1**, with respective MFI = 4049, 1964 and 8871. Twelve labs predict T-cell crossmatch outcome to be positive and 1 predicts it to be borderline. One lab predicting a positive crossmatch noted the positivity may be weak. B-cell predictions were also reported as positive by 12 labs. One lab, reporting no class II DSA as present, predicts the B-cell crossmatch to be negative. For renal transplant risk assessment, all 13 labs assess the risk as unacceptable.

Against **donor V2**, class I and class II DSA were reported. Anti-29 (4199) reactivity was reported by all labs against donor V2. Additional reactivity to A1 (1593) was also reported by 6 labs. By contrast, strong class II reactivity was reported against donor V2, with labs reporting anti-DR11 (9317), DR52 (5293), DR7 (1892), DP4 (11050), and DP17 (1083) reactivity. Twelve labs predict the T-cell crossmatch for this donor-patient pair to be positive, while 1 predicts the outcome to be borderline. For virtual B-cell predictions, all 13 labs predict it to be positive. In turn, all 13 labs assess the renal transplant risk as unacceptable.

The reporting of class I DSA against **donor V3**, varied among labs as 7 labs reported weak anti-B39 (2545) reactivity and several labs noted no

class I DSA were present. The reporting of class II DSA, on the other hand was more consistent, as 8 labs reported reactivity to DP402(9559) and 10 labs reported reactivity to DQ7 (1858). Among the 8 labs reporting anti-DP402 reactivity, 3 also reported reactivity to DPB1\*105:01. DPB1\*105:01 is similar to DPB1\*04:02, as DPB1\*105:01 has the same epitope combination at positions 55 - 57 and 84 - 87 as DPB1\*04:02. For the virtual crossmatch, no agreement was reached for T-cell predictions as 6 labs predict it to be positive, 6 predict it to be negative, and 2 predict it to be borderline. By contrast, the virtual B-cell crossmatch for this donor-patient pair is predicted to be positive by all 13 labs. For predicted transplant risk assessment, 12 labs assess the risk as unacceptable. One lab predicting weak positive T- and B-cell crossmatch outcomes assessed the risk as acceptable.

Class I DSA (A68, B63) was reported against **donor V4**, with respective MFI = 1854 and 5924. Allele level reactivity to B\*15:16 was reported by 6 labs. The reporting of class II DSA were mixed, as 7 labs reported weak reactivity to DR7 (MFI < 3000) and 4 indicated no class II DSA were present. All 13 labs predict the T-cell crossmatch for this donor-patient pair to be positive. For virtual B-cell predictions, 10 labs predict the B-cell crossmatch to be positive and 3 predict it to be negative. Renal transplant risk was assessed as unacceptable by 12 labs. One lab commented the risk was acceptable with immunosuppression.

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



# Flow Crossmatch Results

**Table 6. Individual Flow crossmatch results and DSA reported for Cell #049 vs. Serum #053 - cont.**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
5219					NT	NT					NT	NT			NO
8001	50	179			POS	B60(10969), B48(11379), A11(4391), A24(2961)	100	300			POS	DR15(12710), DR51(13468)	282	257	YES
8050	50	160		6223	POS	B60(12138), B48(12591), A11(5263), A24(1406)	120	269		39470	POS	DR15(12765), DR51(16965)	109	193	NO
8083	90	153			POS	B60(10254), B48(10710), A11(3479), A24(2091)	150	297			POS	DR15(11596), DR51(13160)	295	252	YES
8096	50	53.67			Wk Pos	B60(5475), B48(2073), A11(2311)	NT				NT	DR15(8979)	< 20	NT	NO

**Table 4. Individual Flow crossmatch results and DSA reported for Cell #049 vs. Serum #051**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	10	50			POS	A11(4229)	40	86			POS	DQ7(4562), DR52(1070)	744	824	NO
206	2.98	10.4	2.31		NEG	A11(4743)	4.94	35.6	5.62		POS		7.95	7.71	YES
615	375	35			POS	NT	434	61			POS	NT	345	394	YES
774	50	61			POS	A11(2984)	100	193			POS	DQ7(4509)	231	235	NO
792	52	125			POS	A11(3670), A24(594)	106	181			POS	DQ7(5656), DR52(1246)	244	238	YES
836	70	63			U	A11(2511), A1101(2065)	135	82			NEG	DQ7(3898)	0	0	NO
1160	90	126			POS	A11(2468)	120	221			POS	DQ7(3311)	218	242	YES
2400	40	148			POS	A11(4189)	80	222			POS	DQ7(4657)	193	270	NO
3135	1.2	1149	0.9		NEG	NT					NT	NT	1233		NO
3224	70	75			POS	A1101(4338)	140	132			POS	DQ7(6622), DR52(1706)	255	239	YES
3625	40	72	N/A	N/A	POS	A1101(3131)	40	99	N/A	N/A	POS	DQ7(4200), DR52(1040)	168	324	NO
3753	50	164			POS	A11(4458)	100	232			POS	DQ7(6203), DR52(1973)	244	255	YES
3966	40	76			POS	NT	70	49			NEG	NT	149	237	NO
4345					POS	NT					POS	NT			YES
4661	20	35.87			POS	A11(676), A1101(676)	20	38.54			POS	DQ7(904)	17.15	17.78	YES
5219					NT	NT					NT	NT			NO
8001	50	105			POS	A11(4544)	100	187			POS	DQ7(6480), DR52(1463)	282	257	YES
8050	50	74		2732	POS	A11(4113)	120	106		8293	NEG	DQ7(6393), DR52(1860)	109	193	NO
8083	90	29			NEG	A11(2967)	150	42			NEG	DQ7(4383)	295	252	YES
8096	50	33.78			NEG	A11(2313), B48(2003)	NT				NT	DQ7(1169)	< 20	NT	NO

U = Undefined

**Table 5. Individual Flow crossmatch results and DSA reported for Cell #049 vs. Serum #052**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	10	22			POS	No DSA	40	228			POS	DR11(5894), DQ7(2047), DR52(2589)	744	824	NO
206	2.98	1.44	1.18		NEG	No DSA	4.94	207.3	27.9		POS	DQ7(4448)	7.95	7.71	YES
615	375	1			NEG	NT	434	191			POS	NT	345	394	YES
774	50	39			NEG	No DSA	100	331			POS	DR11(6914), DQ7(3060), DR52(4806)	231	235	NO
792	52	30			NEG	No DSA	106	325			POS	DR11(7966), DQ7(3154), DR52(5887), DR51(1620)	244	238	YES
836	70	27			NEG	No DSA	135	166			POS	DR11(7626), DQ7(3182), DR52(6801), DR51(2093)	0	0	NO
1160	90	<0			NEG	No DSA	120	405			POS	DR11(3656), DQ7(1341), DR52(2332)	218	242	YES
2400	40	26			NEG	No DSA	80	335			POS	DR11(7688), DR52(4129)	193	270	NO
3135	1.2	977	0.8		NEG	NT					NT	NT	1233		NO
3224	70				NEG	No DSA	140	302			POS	DR11(7519), DQ7(3664), DR52(5476)	255	239	YES
3625	40	29	N/A	N/A	NEG	No DSA	40	249	N/A	N/A	POS	DR11(4596), DQ7(1885), DR52(3104), DR51(1070)	168	324	NO
3753	50	13			NEG	No DSA	100	272			POS	DR11(10052), DQ7(3168), DR52(4666)	244	255	YES
3966	40	15			NEG	NT	70	127			POS	NT	149	237	NO
4345					NEG	NT					POS	NT			YES
4661	20	16.55			NEG	No DSA	20	39.6			POS	DR11(2173), DQ7(590), DR52(1765)	17.15	17.78	YES
5219					NT	NT					NT	NT			NO
8001	50	21			NEG	No DSA	100	314			POS	DR11(9721), DQ7(3963), DR52(6914), DR51(2002)	282	257	YES
8050	50	24		1693	NEG	No DSA	120	249		32594	POS	DR11(9574), DQ7(2953), DR52(3941), DR51(2132)	109	193	NO
8083	90	21			NEG	No DSA	150	240			POS	DR11(8038), DQ7(3192), DR52(5588)	295	252	YES
8096	50	24.82			NEG	No DSA	NT				NT	DR11(5559), DQ7(3344)	< 20	NT	NO

**Table 6. Individual Flow crossmatch results and DSA reported for Cell #049 vs. Serum #053**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	10	144			POS	B60(8426), B48(8811), A11(3888), A24(2492)	40	239			POS	DR15(7241), DR51(9450)	744	824	NO
206	2.98	58.15	8.31		POS	B60(12102), B48(12394), A11(5258), A24(3388)	4.94	167.8	22.78		POS	DR11(7373)	7.95	7.71	YES
615	375	103			POS	NT	434	199			POS	NT	345	394	YES
774	50	147			POS	B60(8859), B48(8639), A11(4233),	100	343			POS	DR15(9064), DR51(12190)	231	235	NO
792	52	215			POS	B60(8941), B48(8707), A11(3112), A24(2008)	106	322			POS	DR15(10604), DR51(12160)	244	238	YES
836	70	112			POS	B60(10148), B48(10300), A11(3780), A1101(3328), A24(2310)	135	217			POS	DR15(10589), DR51(12263)	0	0	NO
1160	90	249			POS	B60(5990), B48(5874), A11(2031), A24(1332)	120	388			POS	DR15(4898), DR51(6394)	218	242	YES
2400	40	233			POS	B60(11293), B48(10371), A11(4586), A24(2752)	80	336			POS	DR15(10028), DR51(13033)	193	270	NO
3135	1.2	1107	0.9		NEG	NT					NT	NT	1233		NO
3224	70	210			POS	B60(9664), B48(9815), A1101(4287), A24(2612)	140	302			POS	DR15(11110), DR51(11765)	255	239	YES
3625	40	194	N/A	N/A	POS	B60(8121), B48(8079), A1101(2619), A24(1605)	40	267	N/A	N/A	POS	DR15(6900), DR51(8043)	168	324	NO
3753	50	183			POS	B60(11103), B48(11512), A11(5078), A24(1840)	100	390			POS	DR15(13367), DR51(16365)	244	255	YES
3966	40	126			POS	B60(10865), B48(10718), A11(3626), A24(2013)	70	193			POS	DR15(11037), DR51(12697)	149	237	NO
4345					POS	NT					POS	NT			YES
4661	20	41.79			POS	B60(742), A11(686), A1101(686)	20	57.25			POS	DR15(2204), DR51(5201)	17.15	17.78	YES

**Table 7. Individual Flow crossmatch results and DSA reported for Cell #049 vs. Serum #054**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	10	66			POS	A11(3971)	40	216			POS	DR11(7678, DR52(3256), DQ7 (950)	744	824	NO
206	2.98	17.9	3.25		POS	A11(5216)	4.94	294.3	39.2		POS	DR11(6854), DR52(5375), DQ7(3164)	7.95	7.71	YES
615	375	52			POS	NT	434	208			POS	NT	345	394	YES
774	50	88			POS	A11(3581)	100	381.5			POS	DR11(9396), DR52(4598)	231	235	NO
792	52	152			POS	A11(3676)	106	373			POS	DR11(9884), DR52(6917), DQ7(1510)	244	238	YES
836	70	79			POS	A11(4126), A1101(3736)	135	226			POS	DR11(8854), DR52(6237), DQ7(1561)	0	0	NO
1160	90	150			POS	A11(2707)	120	411			POS	DR11(5239), DR52(2774)	218	242	YES
2400	40	158			POS	A11(4574)	80	365			POS	DR11(10309), DR52(5293)	193	270	NO
3135	1.2	1110	0.9		NEG	NT					NT	NT	1233		NO
3224	70	120			POS	A1101(4321)	140	335			POS	DR11(10687), DR52(7235), DQ7(1928)	255	239	YES
3625	40	112	N/A	N/A	POS	A1101(2374)	40	254	N/A	N/A	POS	DR11(7696), D52(4494), DQ7(1181)	168	324	NO
3753	50	15			NEG	A11(4222)	100	336			POS	DR11(11577), DR52(5185), DQ7(1977)	244	255	YES
3966	40	74			POS	A11(4335)	70	148			POS	DR11(9238), DR52(4921)	149	237	NO
4345					POS	NT					POS	NT			YES
4661	20	37.86			POS	A11(768), A1101(768)	20	65.52			POS	DR11(2458), DR52(1713)	17.15	17.78	YES
5219					NT	NT					NT	NT			NO
8001	50	114			POS	A11(5049)	100	323			POS	DR11(11134), DR52(7154), DQ7(1927)	282	257	YES
8050	50	92		3246	POS	A11(4988)	120	272		40620	POS	DR11(13289), DR52(5375), DQ7(1789)	109	193	NO
8083	90	138			POS	A11(3853)	150	445			POS	DR11(9202), DR52(6384)	295	252	YES
8096	50	22.71			NEG	A11(2235)	NT				NT	DR11(9952), DQ7(4498)	< 20	NT	NO

**Table 8. Individual Flow crossmatch results and DSA reported for Cell #050 vs. Serum #051**

Center	T Cell		RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell		RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG		B Cell NEG		Pronase Treated
	Pos cutoff	T Cell MCS					Pos cutoff	B-cell MCS					Control	MC	Control	MC	
23	10	73			POS	A2(7842)	40	40			POS	DQ7(4562), DR52(1070)	722		865		NO
206	2.98	26.84	4.83		POS	A2(10177)	4.94	63.48	7.67		POS	No DSA	7.01		9.52		YES
615	390	65			POS	NT	462	110			POS	NT	350		422		YES
774	50	89			POS	A2(5871)	100	152			POS	DQ7(4509)	244		304		NO
792	52	139			POS	A2(6189)	106	160			POS	DQ7(5656), DR52(1246)	228		298		YES
836	70	72			POS	A2(7911)	135	66			NEG	DQ7(3898)	0		0		NO
1160	90	178			POS	A2(4358)	120	242			POS	DQ7(3311)	297		308		YES
2400	40	210			POS	A2(7215)	80	184			POS	DQ7(4657)	174		314		NO
3135	1.2	975	1		NEG	NT					NT	NT	991				NO
3224	70	62			POS	A2(8405)	140	111			POS	DQ7(6622), DR52(1706)	255		239		YES
3625	40	109	N/A	N/A	POS	A2(6800)	40	83	N/A	N/A	POS	DQ7(4200), DR52(1040)	170		392		NO
3753	50	95			POS	A2(8225)	100	147			POS	DQ7(6203), DR52(1973)	249		261		YES
3966	40	109			POS	NT	70	94			POS	NT	148		285		NO
4345					POS	NT					POS	NT					YES
4661	20	44.51			POS	A2(1928)	20	68.54			POS	DQ7(904)	16.4		20.91		YES
5219					NT	NT					NT	NT					NO
8001	50	115			POS	A2(7943)	100	168			POS	DQ7(6480), DR52(1463)	272		296		YES
8050	50	139		5188	POS	A2(9171)	120	142		16052	POS	DQ7(6393), DR52(1860)	111		226		NO
8083	90	74			NEG	A2(5861)	150	125			NEG	DQ7(4383)	292		255		YES
8096	50	89.27			POS	A2(3753), B60(3639), B61(1551)	NT				NT	DQ7(1169)	< 20		NT		NO

**Table 9. Individual Flow crossmatch results and DSA reported for Cell #050 vs. Serum #052**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	10	18			POS	No DSA	40	137			POS	DQ7(2047), DR14(3098), DR52(2589)	722	865	NO
206	2.98	0.76	1.11		NEG	No DSA	4.94	130.98	14.76		POS	DQ7(4448)	7.01	9.52	YES
615	390	-4			NEG	NT	462	147			POS	NT	350	422	YES
774	50	19			NEG	No DSA	100	196			POS	DQ7(3060), DR14(3391), DR52(4806)	244	304	NO
792	52	22			NEG	No DSA	106	213			POS	DQ7(3154), DR14(5257), DR52(5887), DR51(1620)	228	298	YES
836	70	9			NEG	No DSA	135	98			U	DQ7(3182), DR14(7343), DR52(6801), DR51(2093)	0	0	NO
1160	90	<0			NEG	No DSA	120	281			POS	DQ7(1341), DR14(1972), DR52(2332)	297	308	YES
2400	40	57			POS	No DSA	80	201			POS	DR14(3755), DR52(4129)	174	314	NO
3135	1.2	772	0.8		NEG	NT					NT	NT	991		NO
3224	70				NEG	No DSA	140	183			POS	DQ7(3664), DR14(4855), DR52(5476)	255	239	YES
3625	40	19	N/A	N/A	NEG	No DSA	40	148	N/A	N/A	POS	DQ7(1885), DR14(2500), DR52(3104), DR51(1070)	170	392	NO
3753	50	23			NEG	No DSA	100	311			POS	DQ7(3168), DR14(5684), DR52(4666)	249	261	YES
3966	40	0			NEG	NT	70	192			POS	NT	148	285	NO
4345					NEG	NT					POS	NT			YES
4661	20	6.92			NEG	No DSA	20	62.64			POS	DQ7(590), DR14(1476), DR52(1765)	16.4	20.91	YES
5219					NT	NT					NT	NT			NO
8001	50	5			NEG	No DSA	100	239			POS	DQ7(3963), DR14(6520), DR52(6914), DR51(2002)	272	296	YES
8050	50	17		1614	NEG	No DSA	120	148		17001	POS	DQ7(2953), DR14(4985), DR52(3941), DR51(2132)	111	226	NO
8083	90	9			NEG	No DSA	150	118			NEG	DQ7(3192), DR14(5465), DR52(5588)	292	255	YES
8096	50	30.78			NEG	No DSA	NT				NT	DQ7(3344), DR14(3156)	< 20	NT	NO

U = Undefined



**Table 10. Individual Flow crossmatch results and DSA reported for Cell #050 vs. Serum #053**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	10	92			POS	B60(8426), B61(4781)	40	178			POS	DQ6(8188), DR15(7241), DR51(9450), DP401(1006)	722	865	NO
206	2.98	38.49	6.49		POS	B60(12102), B61(7862)	4.94	253.48	27.63		POS	DR14(3353)	7.01	9.52	YES
615	390	83			POS	NT	462	210			POS	NT	350	422	YES
774	50	112			POS	B60(8859), B61(5120)	100	289			POS	DQ6(9276), DR15(9064), DR51(12190)	244	304	NO
792	52	167			POS	B60(8941), B61(5581)	106	298			POS	DQ6(12473), DR15(10604), DR51(12160), DP4(1790)	228	298	YES
836	70	70			POS	B60(10148), B61(7383)	135	180			POS	DQ6(13550), DR15(10589), DR51(12263), DP401(1739)	0	0	NO
1160	90	189			POS	B60(5990), B61(3549)	120	378			POS	DQ6(6827), DR15(4898), DR51(6394)	297	308	YES
2400	40	206			POS	B60(11293), B61(6473)	80	294			POS	DQ6(10239), DR15(10028), DR51(13033), DP4(2115)	174	314	NO
3135	1.2	981	1		NEG	NT					NT	NT	991		NO
3224	70	108			POS	B60(9664), B61(6626)	140	271			POS	DQ6(14665), DR15(11110), DR51(11765), DP401(1786)	255	239	YES
3625	40	147	N/A	N/A	POS	B60(8121), B61(4701)	40	239	N/A	N/A	POS	DQ6(9346), DR15(6900), DR51(8043), DP401(1831)	170	392	NO
3753	50	212			POS	B60(11103), B61(6100)	100	319			POS	DQ6(12704), DR15(13367), DR51(16365)	249	261	YES
3966	40	117			POS	B60(10865), B61(5964)	70	213			POS	DQ6(10877), DR15(11037), DR51(12697)	148	285	NO
4345					POS	NT					POS	NT			YES
4661	20	44.91			POS	B60(742)	20	119.7			POS	DQ6(2882), DR15(2204), DR51(5201), DP4(501)	16.4	20.91	YES
5219					NT	NT					NT	NT			NO
8001	50	146			POS	B60(10969), B61(7028)	100	283			POS	DQ6(14544), DR15(12710), DR51(13468), DP4(1822)	272	296	YES
8050	50	109		3893	POS	B60(12138), B61(6786)	120	280		60140	POS	DQ6(13021), DR15(12765), DR51(16965)	111	226	NO
8083	90	99			POS	B60(10254), B61(6130)	150	297			POS	DQ6(13424), DR15(11596), DR51(13160)	292	255	YES
8096	50	62.28			POS	B60(5475), B61(4641)	NT				NT	DQ6(7150), DR15(8979)	< 20	NT	NO

**Table 11. Individual Flow crossmatch results and DSA reported for Cell #050 vs. Serum #054**

Center	T Cell Pos cutoff	T Cell MCS	RATIO	MESF	T-Cell RESULT	Class I DSA(MFI)	B Cell Pos cutoff	B-cell MCS	RATIO	MESF	B-Cell RESULT	Class II DSA(MFI)	T Cell NEG Control MC	B Cell NEG Control MC	Pronase Treated
23	10	0			NEG	No DSA	40	104			POS	DR14(1983), DR52(3256), DQ7(950), DP402(8511)	722	865	NO
206	2.98	0.29	1.04		NEG	No DSA	4.94	110.05	10.61		POS	DR14(3900), DR52(5375), DQ7(3164)	7.01	9.52	YES
615	390	-11			NEG	NT	462	164			POS	NT	350	422	YES
774	50	13			NEG	No DSA	100	269			POS	DR14(2739), DR52(4598), DQ6(2456), DP4(10303)	244	304	NO
792	52	14			NEG	No DSA	106	236			POS	DR14(3911), DR52(6917), DQ7(1510), DQ6(3361), DP4(11050)	228	298	YES
836	70	25			NEG	No DSA	135	147			POS	DR14(5074), DR52(6237), DQ7(1561), DP402(10607), DQ6(3465)	0	0	NO
1160	90	<0			NEG	No DSA	120	335			POS	DR14(1248), DR52(2774), DP402(6455)	297	308	YES
2400	40	73			POS	No DSA	80	218			POS	DR14(3127), DR52(5293), DQ6(3480), DP4(12055)	174	314	NO
3135	1.2	857	0.9		NEG	NT					NT	NT	991		NO
3224	70				NEG	No DSA	140	228			POS	DR14(3983), DR52(7235), DQ7(1928), DP402(12497)	255	239	YES
3625	40	13	N/A	N/A	NEG	No DSA	40	169	N/A	N/A	POS	DR14(1528), DR52(4494), DQ7(1181), DP402(7697), DQ6(1560)	170	392	NO
3753	50	139			POS	No DSA	100	380			POS	DR14(3865), DR52(5185), DQ7(1977), DP402(13178)	249	261	YES
3966	40	18			NEG	NT	70	103			POS	DR14(2332), DR52(4921), DP4(11322)	148	285	NO
4345					NEG	NT					POS	NT			YES
4661	20	7.37			NEG	No DSA	20	65.52			POS	DR14(442), DR52(1713), DP402(3676), DP4(3676)	16.4	20.91	YES
5219					NT	NT					NT	NT			NO
8001	50	-17			NEG	No DSA	100	220			POS	DR14(4435), DR52(7154), DQ7(1927), DQ6(4141), DP4(13099)	272	296	YES
8050	50	14		1568	NEG	No DSA	120	177		22440	POS	DR14(3383), DR52(5375), DQ7(1789), DP402(15182), DQ6(3167)	111	226	NO
8083	90	30			NEG	No DSA	150	303			POS	DR14(4016), DR52(6384), DQ6(3522), DP4(10338)	292	255	YES
8096	50	23.5			NEG	No DSA	NT				NT	DR14(2988), DQ7(4498)	< 20	NT	NO

# Single Antigen Results

**Table 12. Summary of Single Antigen results for Serum #051**

Class I							
*** Serum 51 ***							
15 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
A2	15	100%	7215	6776	2106	1928	10177
A25	15	100%	11614	11959	3946	2685	18949
A26	15	100%	6964	7255	2571	1424	10991
A32	15	100%	4895	4943	1919	1343	8287
A33	15	100%	3098	2879	855	1022	4271
A34	15	100%	3672	3320	1067	406	4788
B57	15	100%	15665	15149	4698	4958	23365
B58	15	100%	14565	14251	4758	2310	22539
A29	14	93%	2143	2221	701	608	3511
A31	14	93%	2516	2521	818	780	3742
A43	14	93%	4948	4959	1586	1069	7598
A68	14	93%	2885	2705	789	773	3818
A11	13	86%	3670	3374	1135	676	4743
A66	13	86%	5676	5833	1747	2022	8944
A69	11	73%	2597	2367	572	1355	3088
B63	11	73%	2116	2008	811	238	3615
A74	10	66%	1811	1753	577	655	2422
A1101	4	26%	2598	2552	1349	676	4338
A1102	4	26%	3090	2813	1480	564	4510
A203	4	26%	5545	5049	2608	1016	8094
A6601	4	26%	5864	5621	2411	2022	8735
A6602	4	26%	2212	2152	911	878	3309
A23	2	13%	849	849	155	694	1004
A30	2	13%	687	686	158	529	844
B77	2	13%	1587	1587	1187	400	2774
A1	1	6%	375	375	-	375	375
A210	1	6%	5013	5013	-	5013	5013
A24	1	6%	594	594	-	594	594
A36	1	6%	550	550	-	550	550
B13	1	6%	353	353	-	353	353
B44	1	6%	3150	3150	-	3150	3150
B48	1	6%	2003	2003	-	2003	2003
B49	1	6%	1414	1414	-	1414	1414
B54	1	6%	2155	2155	-	2155	2155
B55	1	6%	5370	5370	-	5370	5370
B56	1	6%	2148	2148	-	2148	2148
B60	1	6%	3639	3639	-	3639	3639

Class II							
*** Serum 51 ***							
15 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
DQ9	15	100%	3926	4110	1400	883	6220
DQ7	14	93%	4536	4496	1736	904	6622
DQ8	14	93%	3534	3685	1348	1126	5781
DR7	14	93%	4929	4910	1680	1702	7780
DR9	13	86%	2153	1911	678	564	2779
DR12	7	46%	1594	1704	362	1130	2204
DR52	7	46%	1463	1479	350	1040	1973
DQA1*02	2	13%	2305	2305	1179	1126	3484
DQA1*03	2	13%	2213	2213	1323	890	3536
DQA1*05	2	13%	2402	2402	1496	906	3898
DQA1*06	2	13%	2265	2264	1519	746	3783
DP10	1	6%	364	364	-	364	364
DP13	1	6%	442	442	-	442	442
DP14	1	6%	366	366	-	366	366
DP9	1	6%	411	411	-	411	411
DPw1	1	6%	370	370	-	370	370
DPw3	1	6%	432	432	-	432	432
DPw5	1	6%	433	433	-	433	433
DPw6	1	6%	418	418	-	418	418
DQ2	1	6%	325	325	-	325	325
DQ6	1	6%	9219	9219	-	9219	9219
DQA1*04	1	6%	883	883	-	883	883
DR15	1	6%	9182	9182	-	9182	9182
DR16	1	6%	5978	5978	-	5978	5978
DR51	1	6%	11424	11424	-	11424	11424

DSA present

Red = DSA against cell #049 only

Blue = DSA against cell #050 only

Green = DSA against cell #049 and #050

**Table 13. Summary of Single Antigen results Serum #052**

Class I							
*** Serum 52 ***							
2 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
B51	2	100%	807	806	206	601	1012
B44	1	50%	308	308	-	308	308
B45	1	50%	472	472	-	472	472
B52	1	50%	517	517	-	517	517

Class II							
*** Serum 52 ***							
14 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
<b>DQ7</b>	14	100%	3161	2856	1005	590	4448
<b>DR11</b>	14	100%	7573	6926	2236	2173	10052
DR12	14	100%	2962	2786	967	731	4357
DR13	14	100%	5555	5106	1955	1242	7849
<b>DR14</b>	14	100%	4305	4244	1681	1476	7343
DR16	14	100%	2905	2761	1012	493	4310
DR17	14	100%	4107	3732	1358	1134	5632
DR18	14	100%	3344	3134	1222	1184	5094
<b>DR52</b>	13	92%	4666	4461	1606	1765	6914
DR8	13	92%	5661	5464	1578	2547	7643
DQA1*05	6	42%	2788	2445	863	590	3182
DQ2	5	35%	2061	2079	624	1043	3001
<b>DR51</b>	5	35%	2002	1783	400	1070	2132
DP18	4	28%	1295	1270	63	1165	1328
DQA1*06	2	14%	2631	2631	153	2478	2784
DR1404	2	14%	4240	4239	3104	1136	7343
DP10	1	7%	321	321	-	321	321
DP28	1	7%	660	660	-	660	660
DPw2	1	7%	419	419	-	419	419
DPw4	1	7%	592	592	-	592	592
DQ4	1	7%	592	592	-	592	592
DQ9	1	7%	4039	4039	-	4039	4039
DR103	1	7%	1700	1700	-	1700	1700
DR1403	1	7%	5277	5277	-	5277	5277
<b>DR15</b>	1	7%	367	367	-	367	367
DR4	1	7%	632	632	-	632	632
DR7	1	7%	5118	5118	-	5118	5118

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050

**Table 14. Summary of Single Antigen results Serum #053**

Class I							
*** Serum 53 ***							
16 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
A3	16	100%	6070	5658	1855	1234	8873
B27	16	100%	8000	7672	2204	2455	10939
B55	16	100%	5781	5370	1850	759	7448
<b>B60</b>	16	100%	9906	9068	2857	742	12138
B67	16	100%	7705	7200	2312	980	10353
B7	16	100%	16680	15490	4283	3351	21891
A1	15	93%	3623	3450	827	1775	4732
A36	15	93%	2904	2890	673	1469	4250
A80	15	93%	2678	2829	897	1308	4325
B42	15	93%	8350	7948	1951	3283	10937
<b>B48</b>	15	93%	10300	9464	2609	2073	12591
B54	15	93%	3505	3506	814	1892	4694
B56	15	93%	5675	5356	1333	2727	7973
<b>B61</b>	15	93%	6100	5915	1142	3549	7862
B73	15	93%	3596	3455	901	1177	4770
<b>A11</b>	14	87%	3834	3693	1269	686	5263
B13	14	87%	4230	4027	749	2255	4901
B47	14	87%	2802	2785	574	1515	3594
B81	14	87%	14802	13529	4715	1272	19454
B82	14	87%	4902	4513	1806	576	6785
<b>A24</b>	13	81%	2091	2195	567	1332	3388
Cw17	13	81%	6364	6694	1506	3382	9536
Cw15	12	75%	3776	3701	804	2264	5178
Cw18	12	75%	4989	4767	1072	2329	6516
A25	11	68%	1694	1720	435	1039	2338
A66	11	68%	1841	2105	664	1253	3609
Cw6	11	68%	4837	4814	640	3862	6114
Cw7	11	68%	3073	3004	573	2135	3768
A32	10	62%	1638	1742	485	1055	2617
A34	9	56%	1256	1303	248	1022	1801
B57	9	56%	1377	1741	1139	1006	4910
Cw2	8	50%	1409	1499	449	1022	2635
Cw5	8	50%	1658	1913	568	1287	2937
B58	6	37%	1118	1173	373	701	1937
A26	5	31%	1072	1675	1365	708	4386
<b>A1101</b>	4	25%	2974	2730	1320	686	4287
A1102	4	25%	3165	2701	1285	658	3817

Class II							
*** Serum 53 ***							
15 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
<b>DQ6</b>	15	100%	10877	10611	3241	2882	14665
DQ8	15	100%	4680	4716	1686	930	7595
DQ9	15	100%	4626	4740	1826	804	7643
<b>DR15</b>	15	100%	10589	9539	2996	2204	13367
DR16	15	100%	6958	6301	2022	1649	9244
<b>DR51</b>	14	93%	12227	11653	3241	5201	16965
<b>DP401</b>	4	26%	1763	1590	339	1006	1831
<b>DPw4</b>	4	26%	1806	1557	623	501	2115
DQA1*01	3	20%	13550	10070	5084	2882	13780
DQA1*03	3	20%	6071	4681	2713	890	7083
DPA1*01	2	13%	1206	1205	808	398	2013
DPA1*02	2	13%	826	825	383	443	1208
DPA1*03	2	13%	932	931	522	410	1453
DQA1*02	2	13%	2331	2330	1401	930	3731
DP11	1	6%	755	755	-	755	755
DP13	1	6%	947	947	-	947	947
DP15	1	6%	329	329	-	329	329
DP23	1	6%	603	603	-	603	603
DP26	1	6%	1030	1030	-	1030	1030
DPA1*04	1	6%	501	501	-	501	501
DPw1	1	6%	929	929	-	929	929
DPw5	1	6%	438	438	-	438	438
DQA1*04	1	6%	700	700	-	700	700
DQA1*06	1	6%	530	530	-	530	530
DR10	1	6%	3244	3244	-	3244	3244
<b>DR11</b>	1	6%	7373	7373	-	7373	7373
<b>DR14</b>	1	6%	3353	3353	-	3353	3353
DR17	1	6%	6429	6429	-	6429	6429
DR18	1	6%	5349	5349	-	5349	5349
<b>DR52</b>	1	6%	4580	4580	-	4580	4580
DR53	1	6%	512	512	-	512	512

**Red** = DSA against cell #049 only  
**Blue** = DSA against cell #050 only  
**Green** = DSA against cell #049 and #050

**Table 15. Summary of Single Antigen results Serum #054**

Class I							
*** Serum 54 ***							
16 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
A25	16	100%	11676	10897	3468	2612	16361
A26	16	100%	13257	11878	3955	2566	17671
B57	16	100%	7697	6985	2643	846	10755
B58	16	100%	6458	6105	2269	476	9604
B63	16	100%	5924	5418	2141	768	9325
A29	15	93%	4199	3872	1282	538	5928
A34	15	93%	5936	5664	1627	782	7759
A43	15	93%	8322	7741	2305	1324	10869
A66	15	93%	7777	7780	3156	1586	13133
B39	15	93%	2546	2414	787	377	3638
B54	15	93%	4874	4529	1124	2075	6345
A11	14	87%	4049	3807	1167	768	5216
A33	14	87%	2439	2413	706	565	3465
B55	14	87%	2983	2854	755	1415	4180
A30	13	81%	3508	3460	776	1988	4576
A68	12	75%	1854	1835	633	261	2608
B38	12	75%	2325	2168	830	259	3706
B56	11	68%	2394	2225	472	1179	2887
B67	11	68%	1662	1495	515	238	2097
A69	10	62%	1322	1625	487	1129	2418
A80	9	56%	2159	1972	436	1129	2546
A1	8	50%	1593	1684	421	1088	2513
A31	8	50%	1308	1436	629	247	2551
A36	8	50%	1333	1351	514	187	2062
B42	7	43%	1186	1228	251	840	1735
A74	6	37%	1201	1208	620	200	2217
B41	5	31%	1132	1057	143	785	1178
A1101	4	25%	3055	2799	1369	768	4321
A1102	4	25%	3357	2898	1406	726	4155
A6601	4	25%	9547	8575	3749	2887	12320
A6602	3	18%	2669	2337	1343	552	3792
B3901	3	18%	1785	1585	916	377	2593
B59	3	18%	936	1086	422	662	1662
B44	1	6%	2069	2069	-	2069	2069
B53	1	6%	2520	2520	-	2520	2520
B65	1	6%	2099	2099	-	2099	2099
B73	1	6%	447	447	-	447	447

Class II							
*** Serum 54 ***							
16 typing Labs							
Antigen	No.Labs	Consensus	Median	Mean	Std Dev	Min	Max
DR11	16	100%	9317	8965	2514	2458	13289
DR13	16	100%	4970	4553	1724	744	6903
DR14	16	100%	3255	3059	1229	442	5074
DR17	16	100%	6951	6270	2267	1605	9414
DR18	16	100%	5778	5082	1895	1566	7991
DR10	15	93%	4352	3639	1360	596	5401
DR52	15	93%	5293	5127	1552	1713	7235
DP18	14	87%	10107	9545	2781	2826	13636
DP28	14	87%	10591	10058	2758	3716	13861
DPw2	14	87%	8871	8960	2404	3693	13038
DPw3	14	87%	11969	11469	3011	4429	16039
DP10	13	81%	8183	8264	1801	4694	11365
DP14	13	81%	10833	10749	3067	4387	15892
DP17	13	81%	10083	9741	2647	4507	14428
DP20	13	81%	11565	11684	2306	7080	15954
DPw6	13	81%	10651	10803	2248	6431	14631
DP9	12	75%	11482	11607	2561	6294	16544
DQ7	10	62%	1858	2048	992	950	4498
DR7	10	62%	1892	1904	428	1191	2634
DR9	9	56%	1964	1978	603	1019	3106
DP402	8	50%	9559	9725	3589	3676	15182
DQ6	8	50%	3413	3144	740	1560	4141
DR12	8	50%	1661	1712	516	1148	2842
DPw4	7	43%	11050	10263	2838	3676	13099
DQ9	4	25%	1153	1173	111	1040	1348
DPA1*01	3	18%	8729	8389	3104	4429	12010
DPA1*02	3	18%	11454	10020	4045	4507	14099
DQ8	3	18%	1035	1108	142	982	1307
DQA1*03	3	18%	1348	1325	139	1145	1482
DPA1*03	2	12%	7451	7451	4114	3337	11565
DPA1*04	2	12%	9419	9418	24	9395	9442
DQA1*01	2	12%	3803	3803	338	3465	4141
DPw1	1	6%	760	760	-	760	760
DPw5	1	6%	722	722	-	722	722
DQ2	1	6%	644	644	-	644	644
DQA1*02	1	6%	1432	1432	-	1432	1432
DQA1*05	1	6%	1561	1561	-	1561	1561

**Table 16. Individual laboratory results for Serum #051 - class I by Luminex**

Center	A2	A25	A26	A32	A33	A34	B57	B58	A29	A31	A43	A68	A11	A1101	A66	A69	B63	A74	A1102	A203	A6601	A6602	Other	Manufacturer	
23	7842	12529	8040	5273	3150	3795	16584	15761	2230	2988	5371	3187	4229		5676	2806	2116	1862					A30	One Lambda	
206	10177	17227	10991	8287	3905	4788	19149	18128	3511	3742	7598	3818	4743		7872	3088	3615								One Lambda
774	5871	11614	6964	4895	2398	2680	15784	14565	2022	2274	4524	2413	2984		4646										One Lambda
792	6189	11467	6626	4498	2560	3178	14745	14116	1960	2332	4295	2561	3670		6828	1867	1523	1644					A24,B62,B13>	One Lambda	
836	7911	9674	6788	3435	1913	2336	14379	12907	1632	1643	3714	1816	2511	2065	5375	1355	1310	1288	2511	4778	5375	1792	A210	One Lambda	
1160	4358	8279	4779	3053	1757	2221	11688	11036	1448	1676	3304	1902	2468		4634	1377		1016							One Lambda
2400	7215	12914	8069	5195	3098	3672	15218	16089	2530	2699	5543	2912	4189		5350	2900									One Lambda
3224	8405	14254	9081	6322	3559	4273	16854	16243	2940	3345	6191	3609		4338		2769	2275	2369	4510	8094	8735	3309	A23	One Lambda	
3625	6800	11086	6412	4687	2807	3419	15665	14433	2056	2200	4429	2858		3131		2301	1800	1759	3668	6311	6352	2631		One Lambda	
3753	8225	16018	9832	7063	3534	4010	19702	18695	2801	3329	6376	3174	4458		6800	2711	2508	2422							One Lambda
3966	NT																								
4661	1928	2685	1424	1343	1022	406	4958	2310	608	780	1069	773	676	676	2022		238	655	564	1016	2022	878			Lifecodes
8001	7943	14371	9126	6068	3515	4003	18618	17032	2829	3223	5998	3509	4544		8944	2597	1893	2274							One Lambda
8050	9171	18949	10755	7771	3384	3959	23365	22539	2601	3278	6561	2997	4113		7176	2268	2612	2247							One Lambda
8083	5861	10976	6736	4278	2319	2787	15002	13637			4460	2344	2967		6597										One Lambda
8096	3753	7348	3209	1991	4271	4278	5527	6287	1939	1798			2313		3910		2203						B60,B61,B48>	Lifecodes	
<b>Avg</b>	6777	11959	7255	4944	2879	3320	15149	14252	2222	2522	4960	2705	3374	2553	5833	2367	2008	1754	2813	5050	5621	2153			
<b>Std Dev.S</b>	2180	4084	2661	1986	885	1104	4863	4925	728	849	1646	819	1181	1558	1819	600	850	608	1709	3011	2784	1052			
<b>MFI %CV</b>	32%	34%	37%	40%	31%	33%	32%	35%	33%	34%	33%	30%	35%	61%	31%	25%	42%	35%	61%	60%	50%	49%			

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050



**Table 17. Individual laboratory results for Serum #052 - class I by Luminex**

Center	B51	B44	B45	B52	Other	Manufacturer
23						One Lambda
206						One Lambda
774						One Lambda
792	601	308	472	517		One Lambda
836					Neg	One Lambda
1160						One Lambda
2400						One Lambda
3224						One Lambda
3625						One Lambda
3753						One Lambda
3966						
4661						Lifecodes
8001					Neg	One Lambda
8050	1012					One Lambda
8083						One Lambda
8096					Neg	Lifecodes
<b>Avg</b>	807	308	472			
<b>Std Dev.S</b>	291	-	-			
<b>MFI %CV</b>	36%	-	-			

DSA present  
**Red** = DSA against cell #049 only  
**Blue** = DSA against cell #050 only  
**Green** = DSA against cell #049 and #050

**Table 18. Individual laboratory results for Serum #053 - class I by Luminex**

Center	A3	B27	B55	B60	B67	B7	A1	A36	A80	B42	B48	B54	B56	B61	B73	A11	A1101	B13	B47	B81	B82	A24	Cw17	Cw15	Cw18	Cw6
23	5168	7536	5575	8426	7139	14743	3334	2871	2530	7481	8811	3798	5062	4781	3687	3888		3562	2834	12757	4760	2492	6354	3967	3882	4150
206	8873	10939	7268	12102	10353	18640	4670	4250	3576	10937	12394	4463	7973	7862	4770	5258		4901		18740	6785	3388				
774	5708	7779	5664	8859	7273	15639	3623	2904	3241	7531	8639	3505	5134	5120	3596	4223		3192	2598	13541	4787		5652			
792	4832	7338	4745	8941	6472	15021	2653	2320	1990	7114	8707	2969	4528	5581	2939	3112		3673	2302	13271	4174	2008	5006	3475	4148	3862
836	7144	7342	7448	10148	7980	18604	3200	2954	2678	8823	10300	3192	6556	7383	3549	3780	3328	4879	2039	16926	5016	2310	7123	2264	5117	4771
1160	3038	4904	3140	5990	4194	10627	1775	1469	1308	4706	5874	1994	3041	3549	2053	2031		2255	1515	9081	2727	1332	3382	2272	2329	
2400	6878	9271	6784	11293	8966	17509	3725	3359	2852	8350	10371	4694	5749	6473	4566	4586		4553	3537	16286	6260	2752	7753	5178	5467	5228
3224	6224	8414	6319	9664	8425	16863	3661	3138	2585	8926	9815	4253	5927	6626	4098		4287	4631	3193			2612	6364	4292	4861	4837
3625	4344	6276	4565	8121	5897	13149	2363	2064	1664	6455	8079	2906	4169	4701	2796		2619	3381	2337	11122	4130	1605	6233	3193	3770	4047
3753	7078	8889	6399	11103	8645	18552	4235	3648	4112	9043	11512	4022	5741	6100	3804	5078		4284	3313	16595	5571	1840	8603	4055	5771	5503
3966	6232	9117	5897	10865	8375	17950	2798	2514	2238	9104	10718	3361	5675	5964	3591	3626		3568	2949	16062	5076	2013	6338	3754	5368	4961
4661	1234	2455	759	742	980	3351										686	686			1272	576					
8001	6556	9455	6431	10969	8390	18343	3709	3306	2843	9127	11379	3934	6000	7028	3703	4391		4722	3304	16260	5621	2691	7615	3798	5506	5065
8050	7704	10551	7408	12138	10121	21891	4386	3560	4325	10550	12591	4387	6981	6786	4246	5263		4608	3594	19454	6558	1406	9536	4474	6516	6114
8083	5916	8220	5299	10254	7430	16496	2900	2489	2202	7804	10710	3226	5079	6130	3259	3479		4175	2709			2091	7072	3690	4473	4424
8096	3608	4275	2219	5475	4573	10476	4732	2517	4302	3283	2073	1892	2727	4641	1177	2311			2770	8047	1154					
<b>Avg</b>	5659	7673	5370	9068	7201	15491	3451	2891	2830	7949	9465	3506	5356	5915	3456	3694	2730	4027	2785	13530	4514	2195	6695	3701	4767	4815
<b>Std Dev.S</b>	1916	2276	1911	2950	2387	4424	856	697	929	2020	2701	842	1380	1182	933	1317	1524	777	595	4893	1875	590	1568	840	1120	672
<b>MFI %CV</b>	34%	30%	36%	33%	33%	29%	25%	24%	33%	25%	29%	24%	26%	20%	27%	36%	56%	19%	21%	36%	42%	27%	23%	23%	23%	14%

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050

**Table 18. Individual laboratory results for Serum #053 - class I by Luminex (cont.)**

Center	Cw7	A25	A66	A32	A34	B57	Cw2	Cw5	B58	A26	A1102	B2708	B63	B8101	Other	Manufacturer
23	2242	2257	2088	2617	1461	1571	1441	1724	1125				1008		A30,A31,A74	One Lambda
206																One Lambda
774																One Lambda
792	2319	1385	1770	1523	1022	1010	1022	1287	701	708			615		A30,A31,A33,A74 >	One Lambda
836	3470	1727	1821	1539	1286	1481	1448	2762		1200	3780	9796	1066	16926	A2403,A6601,A6602,B8201	One Lambda
1160		1039	1253	1055												One Lambda
2400	3490	2338	3137	2263			2635	2937								One Lambda
3224	2782	2025		2332	1571	1631	1440	1587	1131	1072	3817	9035	1110	14395	A74,A2403,A6601,A6602 >	One Lambda
3625	2135	1493	1777	1737	1061	1006	1377	1500			2550	6938			A2403	One Lambda
3753	3768	1402	1482	1416	1223	1325										One Lambda
3966	2714															One Lambda
4661											658	2455		1272	B703	Lifecodes
8001	3323	1694	2305	1746	1256	1360	1306	1591	1034	1010						One Lambda
8050	3728	1245	1841	1193	1054	1377	1326	1918	1111							One Lambda
8083	3073		2081											15415	B8201	One Lambda
8096		2322	3609		1801	4910			1937	4386					B39,B38,B18	Lifecodes
<b>Avg</b>	3004	1721	2106	1742	1304	1741	1499	1913	1173	1675	2701	7056	950	12002		
<b>Std Dev.S</b>	601	456	697	511	263	1208	480	607	408	1526	1484	3297	227	7229		
<b>MFI %CV</b>	20%	27%	33%	29%	20%	69%	32%	32%	35%	91%	55%	47%	24%	60%		

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050

**Table 19. Individual laboratory results for Serum #054 - class I by Luminex**

Center	A25	A26	B57	B58	B63	A29	A34	A43	A66	B39	B54	A11	A1101	A33	B55	A30	A68	B38	B56	B67	A69	A80	A1	A31	A36	Other	Manufacturer	
23	11737	13516	8075	7032	6336	4316	6276	8322	7980	2406	5261	3971		3089	3379	3508	2459	2246	2674	1781	2418	2215	2513	2551	2062	B41,B42	One Lambda	
206	14459	15564	10311	9141	9325	5928	7020	10869	9362	3638	5292	5216						3706										One Lambda
774	11614	12071	7430	6497	5716	4093	5007	7856	6788	2546	4874	3581		2588	3128	3797			2456			2159						One Lambda
792	10167	11068	6127	5564	4691	3440	5936	6719	9399	2208	4128	3676		2332	2321	3123	1910	1838	1736	1328	1243	1443	1312	1162	1255	B41,B42>	One Lambda	
836	11362	13740	7668	6419	6682	4199	6797	8274	11540	2593	4103	4126	3736	2546	4180	3977	2047	2517	1915	1530	1316	1636	1544	1242	1367	A6601>	One Lambda	
1160	8137	9007	4648	3933	3379	2616	4647	5518	7540	1621	3149	2707		2059	1680	2405	1738	1344	1179	1048	1129	1129	1088				One Lambda	
2400	12274	13137	7725	6212	5551	4234	5642	8610	7777	2559	5128	4574		3465	2870	3990	2608	2182			2374							One Lambda
3224	12779	13376	9070	7630	6261	4836	7759	8837		2805	5219		4321	3205	2981	4518	2499	2403	2394	1879	2014	2179	2073	1975	1742	A6601>	One Lambda	
3625	7991	8504	4589	3825	3002	2090	4284	4867	1586		2698		2374	1914	1415	1988	1797	1489		1088	1235					A6601>	One Lambda	
3753	12952	14458	8151	7445	6694	4386	5328	8668	7765	2979	5579	4222		1999	3432	2572	1424	2543	2582	1911	1327	2314	1472	1334	1298	B42	One Lambda	
3966	12999	14277	8918	7327	6132	4125	5423	8621	7544	2166	4350	4335		2278	1960	4146												One Lambda
4661	2612	2566	846	476	768	538	782	1324	2887	377		768	768	565			261	259		238				247	187	A6601>	Lifecodes	
8001	13310	14825	8363	7647	6702	4673	7584	9401	13133	3031	5421	5049		3123	2984	4576	2408	2639	2074	1883	1984	2134	1833	1698	1639	B41,B42	One Lambda	
8050	16361	17671	10755	9604	8124	5204	6382	10481	9358	3523	6345	4988		1971	3721	3206	1331	2852	2887	2097	1211	2546	1641	1282	1261	B41,B42	One Lambda	
8083	11284	12434	6914	5980	5321	3413	6094	7754	11170	2175	4319	3853		2649	2640	3177			2024									One Lambda
8096	4324	3836	2177	2960	2015				2874	1584	2075	2235			3277		1547		2557	1662						B44,B53>	Lifecodes	
<b>Avg</b>	10898	11878	6985	6106	5419	3873	5664	7741	7780	2414	4529	3807	2800	2413	2855	3460	1836	2168	2225	1495	1625	1973	1685	1436	1351			
<b>Std Dev.S</b>	3582	4084	2730	2343	2212	1327	1684	2386	3267	814	1164	1211	1581	733	784	808	661	867	495	540	513	463	451	672	550			
<b>MFI %CV</b>	33%	34%	39%	38%	41%	34%	30%	31%	42%	34%	26%	32%	56%	30%	27%	23%	36%	40%	22%	36%	32%	23%	27%	47%	41%			

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050

**Table 20. Individual laboratory results for Serum #051 - class II by Luminex**

Center	DQ9	DQ7	DQ8	DR7	DR9	DR12	DR52	DQA1*02	DQA1*03	DQA1*05	DQA1*06	Other	Manufacturer
23	3778	4562	3341	4650	1854	1483	1070						One Lambda
206	4349											DR15,DR16,DR51,DQ6	One Lambda
774	3797	4509	3372	5053	2279								One Lambda
792	5038	5656	4729	5323	2153	1457	1246					DQ2,DPW1,DPW3,DPW5 >	One Lambda
836	3508	3898	3536	4235	1508			3484	3536	3898	3783		One Lambda
1160	2904	3311	2817	2735	1012								One Lambda
2400	4083	4657	3547	5392	2216								One Lambda
3224	6116	6622	5647	6326	2635	2064	1706						One Lambda
3625	3666	4200	3524	3404	1377	1130	1040						One Lambda
3753	5618	6203	4836	7557	2779	1996	1973						One Lambda
3966	NT												
4661	883	904	1126	1702	564			1126	890	906	746	DQA1*04	Lifecodes
8001	6220	6480	5781	6308	2487	1594	1463						One Lambda
8050	5455	6393	4636	7780	2698	2204	1860						One Lambda
8083	3926	4383	3531	4805									One Lambda
8096	2310	1169	1179	3475	1293								Lifecodes
<b>Avg</b>	4110	4496	3686	4910	1912	1704	1480	2305	2213	2402	2265		
<b>Std Dev.S</b>	1449	1801	1399	1743	705	391	378	1667	1871	2116	2147		
<b>MFI %CV</b>	35%	40%	38%	36%	37%	23%	26%	72%	85%	88%	95%		

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050

**Table 21. Individual laboratory results for Serum #052 - class II by Luminex**

Center	DQ7	DR11	DR12	DR13	DR14	DR16	DR17	DR18	DR52	DR8	DQA1*05	DQ2	DR51	DP18	DQA1*06	DR1404	Other	Manufacturer
23	2047	5894	2472	4295	3098	1994	3083	2369	2589	4458								One Lambda
206	4448																DR7,DQ9	One Lambda
774	3060	6914	2683	4743	3391	2528	3470	2925	4806	4885								One Lambda
792	3154	7966	3204	6396	5257	3156	4376	3819	5887	5661		2061	1620	1328			DR4,DR15,DQ4,DPW2 >	One Lambda
836	3182	7626	3151	6273	7343	3130	4215	3686	6801	7619	3182	2058	2093	1165	2478	7343	DR1403	One Lambda
1160	1341	3656	1414	2482	1972	1375	1515	1243	2332	2547								One Lambda
2400		7688	2198	5035	3755	3286	3900	3256	4129	5720	2893				2784			One Lambda
3224	3664	7519	3195	6075	4855	2804	3999	3432	5476	5450								One Lambda
3625	1885	4596	1809	2594	2500	1879	1696	1322	3104	3364		1043	1070					One Lambda
3753	3168	10052	4357	7611	5684	4310	5632	5094	4666	7643	2919							One Lambda
3966	NT																	
4661	590	2173	731	1242	1476	493	1134	1184	1765		590					1136		Lifecodes
8001	3963	9721	4037	7849	6520	4055	5415	4804	6914	7187	2682		2002	1294				One Lambda
8050	2953	9574	3668	6942	4945	3837	4715	4438	3941	6889	2407		2132	1296				One Lambda
8083	3192	8038	3325	6286	5465	2926	4413	3612	5588	5979		2233						One Lambda
8096	3344	5559	2773	3667	3156	2884	4688	2697		3640		3001					DR103	Lifecodes
<b>Avg</b>	2857	6927	2787	5106	4244	2761	3732	3134	4461	5465	2446	2079	1783	1271	2631	4240		
<b>Std Dev.S</b>	1043	2320	1004	2029	1745	1050	1410	1269	1671	1642	945	698	447	72	216	4389		
<b>MFI %CV</b>	37%	33%	36%	40%	41%	38%	38%	40%	37%	30%	39%	34%	25%	6%	8%	104%		

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050

**Table 22. Individual laboratory results for Serum #053 - class II by Luminex**

Center	DQ6	DQ8	DQ9	DR15	DR16	DR51	DP401	DPw4	DQA1*01	DQA1*03	DPA1*01	DPA1*02	DPA1*03	DQA1*02	Other	Manufacturer
23	8188	3405	3844	7241	4594	9450	1006									One Lambda
206															DR10,DR11,DR14,DR17 >	One Lambda
774	9276	3444	4626	9064	5786	12190										One Lambda
792	12473	6138	5900	10604	6958	12160		1790							DR53,DPW1,DPW5,DP11 >	One Lambda
836	13550	6065	6071	10589	6810	12263	1739		13550	6071	2013	1208	1453	3731	DP26	One Lambda
1160	6827	3042	3165	4898	2904	6394										One Lambda
2400	10239	4068	4579	10028	6996	13033		2115								One Lambda
3224	14665	7595	7643	11110	7031	11765	1786									One Lambda
3625	9346	4680	4593	6900	4296	8043	1831									One Lambda
3753	12704	4829	5600	13367	9244	16365										One Lambda
3966	10877	3838	4497	11037	7320	12697			13780	7083						
4661	2882	930	804	2204	1649	5201		501	2882	890	398	443	410	930	DPA1*04,DQA1*04,DQA1*06	Lifecodes
8001	14544	7138	7047	12710	8156	13468		1822								One Lambda
8050	13021	4422	5156	12765	8001	16965										One Lambda
8083	13424	6417	6196	11596	8031	13160										One Lambda
8096	7150	4738	1389	8979	6739											Lifecodes
<b>Avg</b>	10611	4717	4741	9539	6301	11654	1591	1557	10071	4681	1206	826	932	2331		
<b>Std Dev.S</b>	3355	1745	1890	3101	2093	3364	391	719	6227	3322	1142	541	738	1981		
<b>MFI %CV</b>	32%	37%	40%	33%	33%	29%	25%	46%	62%	71%	95%	66%	79%	85%		

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050

**Table 23. Individual laboratory results for Serum #054 - class II by Luminex**

Center	DR11	DR13	DR14	DR17	DR18	DR10	DR52	DP18	DP28	DPw2	DPw3	DP10	DP14	DP17	DP20	DPw6	DP9	DQ7	DR7	DR9	DP402	DQ6	DR12	DPw4	Other	Manufacturer
23	7678	2140	1983	4608	3272	2652	3256	7271	7849	7574	8868	6520	8843	8270	9191	7725	9363	950	1616	1019	8511		1148			One Lambda
206	6854	4908	3900	3511	3097		5375											3164							DR8	One Lambda
774	9396	4967	2739	6156	5157	3874	4598	8688	9446	8774	11105	7540	10506	9670	11284	9908	11348					2456	10303			One Lambda
792	9884	6096	3911	7261	6204	4352	6917	10843	11343	9522	12753	8187	10833	10378	11713	11271	11615	1510	1550	1808		3361	1282	11050	DQ8>	One Lambda
836	8854	5673	5074	6969	5848	4446	6237	10400	10831	8967	12010	7886	11142	10083	11565	10651	11283	1561	1530	1731	10607	3465	1262		DQ8>	One Lambda
1160	5239	2123	1248	2820	2281	1698	2774	6104	6350	5116	7428	4694	5947	5373	7080	6431	6294				6455					One Lambda
2400	10309	5851	3127	6921	5875	4469	5293	9959	10460	10679	12190	8843	12251	10340	12710	10983	12131					3480		12055		One Lambda
3224	10687	5845	3983	7539	6566	4212	7235	12350	12878	10710	14199	9636	12538	11550	12833	12918	12756	1928	2372	2675	12497		1825			One Lambda
3625	7696	2901	1528	3623	2940	2317	4494	7955	7872	7375	9021	6167	9071	8001	8678	8515	8855	1181	1191	1293	7697	1560				One Lambda
3753	11577	4973	3865	9235	7991	4860	5185	11391	12297	11166	13965	10717	14020	12414	14472	12742	14175	1977	2362		13178		1879		DQ9	One Lambda
3966	9238	5318	2332	6932	5708	2040	4921	9021	9673	8764	11888	8183			11562	10644								11322	DPA1*01>	
4661	2458	744	442	1605	1566	596	1713	2826	3716	3693	4429		4387	4507							3676		3676		DPA1*01>	Lifecodes
8001	11134	6903	4435	8472	6822	4380	7154	13636	13861	11408	14749	10029	13822	12200	13659	13589	13812	1927	2001	2123		4141	1497	13099	DQ8>	One Lambda
8050	13289	4631	3383	9414	7740	4582	5375	12932	13527	13038	16039	11365	15892	14428	15954	14631	16544	1789	2634	3106	15182	3167	1962		DQA1*03	One Lambda
8083	9202	6437	4016	7531	6075	4718	6384	10255	10722	8654	11928	7673	10494	9422	11197	10431	11109					3522		10338		One Lambda
8096	9952	3339	2988	7724	4185	5401												4498	1940	2088			2842			Lifecodes
<b>Avg</b>	8965	4553	3060	6270	5083	3640	5127	9545	10059	8960	11469	8265	10750	9741	11684	10803	11607	2049	1904	1979	9725	3144	1712	10263		
<b>Std Dev.S</b>	2596	1781	1270	2341	1957	1408	1607	2886	2862	2495	3125	1875	3193	2755	2401	2340	2675	1045	451	639	3837	791	552	3066		
<b>MFI %CV</b>	29%	39%	41%	37%	38%	39%	31%	30%	28%	28%	27%	23%	30%	28%	21%	22%	23%	51%	24%	32%	39%	25%	32%	30%		

DSA present

**Red** = DSA against cell #049 only

**Blue** = DSA against cell #050 only

**Green** = DSA against cell #049 and #050



# Virtual Crossmatch Results

**Table 24. Individual Virtual crossmatch results for Serum #053 vs. Donor #001**

Donor #001 - HLA genotype: A\*11:01-A\*24:02-B\*40:06-B\*51:01-C\*08:01:01G-C\*14:02:01G/DRB1\*09:01:02G-DRB4\*01:01:01G-DQB1\*03:03-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	Additional Comments
23	MX-053		Positive	A*11(3888), A24(2492), B61(4781)	Positive	DQ9(3849)	Unacceptable	
206	MX-053	93	Positive	A11(5258, A24(3388), B61(7862)	Negative	No DSA	Unacceptable	
774	MX-053		Positive	A*11(4258), B*40:06(4266)	Positive	DQB1*03:03(5709)	Unacceptable	
792	MX-053	100	Positive	B*40:06(4105), A*11:01(3014), A*24:02(1713)	Positive	DQB1*03:03(5900), DRB4*01:01(512), DPB1*05:01(438)	Unacceptable	
836	MX-053	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-053	91	Positive	B61(2532), A11(2031), A24(1224)	Positive	DQ9(3165)	Unacceptable	
2400	MX-053	99	Positive	A*11:01(4216), A*24:02(2472), B*40:06(5587)	Positive	DQB1*03:03(4422)	Unacceptable	
3224	MX-053		Positive	A24(2612), A11(4287), B40(5024)	Positive	DQ9(7643)	Unacceptable	
3753	MX-053	98.2	Positive	A11(5078), A24(1840), B61(6100)	Positive	DQ9(5600)	Unacceptable	No transplant
8001	MX-053	99	Positive	A*11:01(4354), A*24:02(2390), B*40:06(5352)	Positive	DQB1*03:03(7047), DRB4*01:01(525)	Unacceptable	
8050	MX-053	97	Positive	A11(5263), A24(1406), B61(6786)	Positive	DQ9(5156)	Unacceptable	
8083	MX-053	98	Positive	B*40:06(4418), A*11:01(3479), A*24:02(1856)	Positive	DQB1*03:03(6196)	Unacceptable	
8096	MX-053		Positive	B61(4641), A11(2311)	Positive	DQ9(1389)	Unacceptable	

**Table 25. Individual Virtual crossmatch results for Serum #053 vs. Donor #002**

Donor #002 - HLA genotype: A\*01:01:01-A\*29:02:01-B\*08:01:01-B\*44:03:01-C\*07:01:01-C\*16:01:01/DRB1\*07:01:01-DRB1\*11:04:01-DRB3\*02:02:01G-DRB4\*01:01:01G-DQB1\*02:02:01-DQB1\*03:01:01-DPB1\*04:02:01-DPB1\*17:01

Center	Patient	CPRA	Virtual T-cell Prediction	Class I DSA (MFI)	Virtual B-cell Prediction	Class II DSA (MFI)	Risk Assessment	Additional Comments
23	MX-053		Positive	A1(3334), Cw7(2242)	Positive	no DSA	Unacceptable	
206	MX-053	93	Positive	A1(4670)	Positive	DR11(7373), DR52(4580)	Unacceptable	
774	MX-053		Positive	A*01:01(3623)	Negative	no DSA	Unacceptable	
792	MX-053	100	Weak Positive	A*01:01(2653)	Weak Positive	DRB4*01:01(512)	Acceptable	No C*07:01 based on panel. Crossmatch below 200 channel shift
836	MX-053	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-053	91	Borderline Neg/Weak Pos	A1(1775)	Borderline Neg/Weak Pos	no DSA	Acceptable	Risk assessment: Depending on the real XM results. If it is borderline negative or weakly positive, it may proceed with transplant along with pre-transplant desensitization and closely post-transplant monitoring.
2400	MX-053	99	Weak Positive	A*01:01(3680)	Negative	no DSA	Acceptable	
3224	MX-053		Positive	A1(3661), Cw7(2783)	Positive	no DSA	Unacceptable	
3753	MX-053	98.2	Borderline	A1(4235), Cw7(3768)	Positive	no DSA	Acceptable	Proceed with immunosuppression
8001	MX-053	99	Positive	A*01:01(3709)	Positive	DRB4*01:01(525)	Unacceptable	C*07:01 is not included on LSAB panel, however, C*07:02(3323) is present.
8050	MX-053	97	Positive	A1(4386), Cw7(3278)	Positive	no DSA	Unacceptable	
8083	MX-053	98	Positive	A*01:01(2900)	Negative	no DSA	Unacceptable	
8096	MX-053		Positive	A1(4732)	Negative	no DSA	Unacceptable	

**Table 26. Individual Virtual crossmatch results for Serum #053 vs. Donor #003**

Donor #003 - HLA genotype: A\*02:01-A\*02:06-B\*39:02-B\*39:05-C\*07:02:01G/DRB1\*04:07:01G-DRB1\*16:02-DRB4\*01:01:01G-DRB5\*02:02:01G-DQB1\*03:01-DQB1\*03:02-DPB1\*04:02-DPB1\*105:01

Center	Patient	CPRA	Virtual T-cell Prediction	Class I DSA (MFI)	Virtual B-cell Prediction	Class II DSA (MFI)	Risk Assessment	Additional Comments
23	MX-053		Negative	Cw7(2242)	Positive	DR16(4594), DR51(9449), DQ8(3405)	Unacceptable	
206	MX-053	93	Negative	no DSA	Negative	No DSA	Acceptable	
774	MX-053		Negative	no DSA	Positive	DRB1*16:02(5754), DRB5*02:02(12132), DQB1*03:02(5920)	Unacceptable	
792	MX-053	100	Neg/Weak Pos	C*07:02(2319)	Positive	DRB5*02:02(11743), DRB1*16:02(6919), DQB1*03:02(6138), DRB4*01:01(512)	Unacceptable	
836	MX-053	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-053	91	Negative	no DSA	Positive	DR16(2809), DR51(6394), DQ8(3042)	Unacceptable	B*39:02 and B*39:05 not present on antibody panel
2400	MX-053	99	Negative	C*07:02(3314)	Positive	DRB1*16:02(6549), DRB5*02:02(13032)	Unacceptable	
3224	MX-053		Negative	Cw7(2783)	Positive	DR16(7032), DR51(11325), DQ8(7595)	Unacceptable	DSA anti-Cw7 was determined. However, a positive T cell crossmatch would not be expected.
3753	MX-053	98.2	Negative	Cw7(3768)	Positive	DR16(9244), DR51(16365), DQ8(4829)	Unacceptable	No transplant
8001	MX-053	99	Positive	C*07:02(3323)	Positive	DRB1*16:02(8156), DRB5*02:02(13332), DRB4*01:01(525), DQB1*03:02(7138)	Unacceptable	B*39:02, B*39:05, DRB1*04:07, DPB1*105:01 are not included on LSAB panel.
8050	MX-053	97	Negative	Cw7(3728)	Positive	DR16(8001), DR51(16965), DQ8(4422)	Unacceptable	
8083	MX-053	98	Positive	C*07:02(3073)	Positive	DRB5*02:02(13160), DRB1*16:02(7656), DQB1*03:02(6417)	Unacceptable	
8096	MX-053		Positive	B39(1413)	Positive	DR16(6739), DQ8(4738)	Unacceptable	

**Table 27. Individual Virtual crossmatch results for Serum #053 vs. Donor #004**

Donor #004 - HLA genotype: A\*02:01-A\*68:02-B\*15:16-B\*49:01-C\*07:01:01G-C\*14:02/DRB1\*04:05-DRB1\*07:01-DRB4\*01:01:01G-DQB1\*02:02-DQB1\*03:02-DPB1\*04:01:01G-DPB1\*13:01:01G

Center	Patient	CPRA	Virtual T-cell Prediction	Class I DSA (MFI)	Virtual B-cell Prediction	Class II DSA (MFI)	Risk Assessment	Additional Comments
23	MX-053		Negative	B63(1008), Cw7(2242)	Positive	DQ8(3405), DP0401(1006)	Unacceptable	
206	MX-053	93	Negative	no DSA	Negative	no DSA	Acceptable	
774	MX-053		Negative	no DSA	Positive	DQB1*03:02(5920)	Unacceptable	
792	MX-053	100	Negative	B*15:16(615)	Positive	DQB1*03:02(6138), DPB1*04:01(1790), DPB1*13:01(949), DRB4*01:01(512)	Unacceptable	
836	MX-053	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-053	91	Negative	no DSA	Undetermined	DQ8(3042?)	Unacceptable	According to SAB assay, DQ8 appears to be positive, however, DQ8 looks negative on LSPRA assay. Therefore B cell virtual XM is undetermined, real XM is required.
2400	MX-053	99	Negative	no DSA	Positive	DQB1*03:02(3907), DPB1*04:01(2015)	Unacceptable	
3224	MX-053		Negative	B*15:16(1111), Cw7(2783)	Positive	DQ8(7595), DP4(1787)	Unacceptable	DSA anti-B*15:16 and Cw7 were determined. However, a positive T cell crossmatch would not be expected.
3753	MX-053	98.2	Negative	No DSA	Positive	DQ8(4829)	Acceptable	Proceed with immunosuppression
8001	MX-053	99	Neg/Pos	B*15:16(851)	Positive	DQB1*03:02(7138), DPB1*04:01(1822), DPB1*13:01(974), DRB4*01:01(525)	Unacceptable	C*07:01 is not included on LSAB panel, however, C*07:02(3223) is present.
8050	MX-053	97	Negative	Cw7(3728)	Positive	DQ8(4422)	Unacceptable	
8083	MX-053	98	Negative		Positive	DQB1*03:02(6417), DPB1*04:01(1849)	Unacceptable	
8096	MX-053		Negative	No DSA	Positive	DQ8(4738)	Unacceptable	

**Table 28. Individual Virtual crossmatch results for Serum #054 vs. Donor #001**

Donor #001 - HLA genotype: A\*11:01-A\*24:02-B\*40:06-B\*51:01-C\*08:01:01G-C\*14:02:01G/DRB1\*09:01:02G-DRB4\*01:01:01G-DQB1\*03:03-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	Additional Comments
23	MX-054		Positive	A11(3971)	Positive	DR9(1019), DP2(7574)	Unacceptable	
206	MX-054	86	Positive	A11(5216)	Negative	no DSA	Unacceptable	
774	MX-054		Positive	A*11:01(3483)	Positive	DPB1*02:01(8774)	Unacceptable	
792	MX-054	100	Positive	A*11:01(3520)	Positive	DPB1*02:01(9522), DRB1*09:01(1808), DQB1*03:03(1040), DPB1*05:01(722)	Unacceptable	
836	MX-054	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-054	79	Positive	A11(2554)	Positive	DP2(5116)	Unacceptable	
2400	MX-054	92	Weak Positive	A*11:01(4319)	Positive	DPB1*02:01(10565)	Unacceptable	
3224	MX-054		Positive	A11(4321)	Positive	DRB1*09:01(2676), DQ9(1364), DP2(10710)	Unacceptable	DRB1*09:01 is questionable
3753	MX-054	95.7	Borderline	A11(4222)	Positive	DP2(11166), DR9(2746)	Unacceptable	No transplant
8001	MX-054	99	Positive	A*11:01(4708)	Positive	DRB1*09:01(2123), DQB1*03:03(1348), DPB1*02:01(11408)	Unacceptable	
8050	MX-054	87	Positive	A11(4988)	Positive	DRB1*09:01(3106), DP2(13038)	Unacceptable	The serum displays DQA1*03:02(MFI=1481) antibodies. Donor's DQA typing is not available to determine if this is donor specific.
8083	MX-054	91	Positive	A*11:01(3626)	Positive	DPB1*02:01(8654)	Unacceptable	
8096	MX-054		Positive	A11(2235)	Positive	DR9(2088)	Unacceptable	

**Table 29. Individual Virtual crossmatch results for Serum #054 vs. Donor #002**

Donor #002 - HLA genotype: A\*01:01:01-A\*29:02:01-B\*08:01:01-B\*44:03:01-C\*07:01:01-C\*16:01:01/DRB1\*07:01:01-DRB1\*11:04:01-DRB3\*02:02:01G-DRB4\*01:01:01G-DQB1\*02:02:01-DQB1\*03:01:01-DPB1\*04:02:01-DPB1\*17:01

Center	Patient	CPRA	Virtual T-cell Prediction	Class I DSA (MFI)	Virtual B-cell Prediction	Class II DSA (MFI)	Risk Assessment	Additional Comments
23	MX-054		Positive	A1(2513), A29(4316)	Positive	DR7(1616), DR11(7678), DR52(3256), DP0402(8511), DP17(8270), DQ7(950)	Unacceptable	
206	MX-054	86	Positive	A29(5928)	Positive	DR11(6854), DR52(5375), DQ7(3164)	Unacceptable	
774	MX-054		Positive	A*29:02(4112)	Positive	DRB1*11:04(9551), DPB1*04:02(10303), DPB1*17:01(9670)	Unacceptable	
792	MX-054	100	Positive	A*29:02(3440), A*01:01(1312), B*08:01(537)	Positive	DPB1*04:02(11050), DPB1*17:01(10214), DRB1*11:04(9786), DR52(1564), DR7(1550), DQ7(1510)	Unacceptable	No C*07:01 bead on panel
836	MX-054	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-054	79	Positive	A29(2616), A1(1088)	Positive	DR11(5239), DR52(572), DP4(6455), DP17(5373)	Unacceptable	
2400	MX-054	92	Weak Positive	A*29:02(4275)	Positive	DRB1*11:04(10504), DPB1*04:02(11885), DPB1*17:01(10165)	Unacceptable	
3224	MX-054		Positive	A29(4836), A1(2073)	Positive	DR7(2372), DR11(10,598), DR52(1641), DQ7(1927), DPB1*04:02/105:01(12497), DP17(11,551)	Unacceptable	DQ7 questionable
3753	MX-054	95.7	Borderline	A1(1472), A29(4386)	Positive	DR7(2362), DR11(11577), DR52(5185), DP17(12414), DP402(13178)	Unacceptable	No transplant
8001	MX-054	99	Positive	A*01:01(1833), A*29:02(4673), B*08:01(749)	Positive	DRB1*07:01(2001), DRB1*11:04(11134), DRB3*02:02(1555), DQB1*03:01(1927), DPB1*04:02(13099), DPB1*17:01(12200)	Unacceptable	C*07:01 is not included on LSAB panel
8050	MX-054	87	Positive	A1(1641), A29(5204)	Positive	DR7(2634), DR11(13289), DR52(5375), DQ7(1789), DPB1*04:02(15182), DP17(14428)	Unacceptable	The serum displays DQA1*03:02(MFI=1481) antibodies. Donor's DQA typing is not available to determine if this is donor specific.
8083	MX-054	91	Positive	A*29:02(3413)	Positive	DPB1*04:02(10338), DPB1*17:01(9422), DRB1*11:04(9202)	Unacceptable	
8096	MX-054		Positive	A29(949), B44(2069)	Positive	DR7(1940), DQ7(4498)	Unacceptable	

**Table 30. Individual Virtual crossmatch results for Serum #054 vs. Donor #003**

Donor #003 - HLA genotype: A\*02:01-A\*02:06-B\*39:02-B\*39:05-C\*07:02:01G/DRB1\*04:07:01G-DRB1\*16:02-DRB4\*01:01:01G-DRB5\*02:02:01G-DQB1\*03:01-DQB1\*03:02-DPB1\*04:02-DPB1\*105:01

Center	Patient	CPRA	Virtual T-cell Prediction	Class I DSA (MFI)	Virtual B-cell Prediction	Class II DSA (MFI)	Risk Assessment	Additional Comments
23	MX-054		weak positive	B39(2406)	weak positive	DQ7(950), DP402(8511)	Acceptable	
206	MX-054	86	Negative	No DSA	Positive	DQ7(3164)	Unacceptable	
774	MX-054		Positive	B39(2546)	Positive	DPB1*04:02(10303), DPB1*0105:01(NA)	Unacceptable	
792	MX-054	100	Negative	no DSA	Positive	DPB1*04:02(11050), DQB1*03:01(1510), DQB1*03:02(982)	Unacceptable	No B*39:02 bead on panel
836	MX-054	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-054	79	Borderline Neg/Weak Pos	B39(1621)	Positive	DP4(6455)	Unacceptable	B*39:02 and B*39:05 not present on antibody panel
2400	MX-054	92	Negative	No DSA	Positive	DPB1*04:02(11885)	Unacceptable	
3224	MX-054		Positive	B39(2806)	Positive	DQ7(1929), DPB1*04:02/*105:01(12497), DQ8(1343)	Unacceptable	DQ7 questionable. Final Crossmatch recommended.
3753	MX-054	95.7	Borderline	B39(2979)	Positive	DP402(13178), DQ7(1977)	Unacceptable	No transplant
8001	MX-054	99	Negative		Positive	DQB1*03:01(1927),DQB1*03:02(1307), DPB1*04:02(13099)	Unacceptable	B*39:02,B*39:05,DRB1*04:07, DPB1*105:01 are not included on LSAB panel. However, B*39:01(3031) is present.
8050	MX-054	87	Positive	B39(3523)	Positive	DQ7(1789), DPB1*04:02/*105:01(15182)	Unacceptable	The serum displays DQA1*03:02(MFI=1481) antibodies. Donor's DQA typing is not available to determine if this is donor specific.
8083	MX-054	91	Negative		Positive	DPB1*04:02(10338)	Unacceptable	
8096	MX-054		Positive	B39(1584)	Positive	DQ7(4498)	Unacceptable	



**Table 31. Individual Virtual crossmatch results for Serum #054 vs. Donor #004**

Donor #004 - HLA genotype: A\*02:01-A\*68:02-B\*15:16-B\*49:01-C\*07:01:01G-C\*14:02/DRB1\*04:05-DRB1\*07:01-DRB4\*01:01:01G-DQB1\*02:02-DQB1\*03:02-DPB1\*04:01:01G-DPB1\*13:01:01G

Center	Patient	CPRA	Virtual T-cell Prediction	Class I DSA (MFI)	Virtual B-cell Prediction	Class II DSA (MFI)	Risk Assessment	Additional Comments
23	MX-054		Positive	A68(2459), B63(6336)	Positive	DR7(1616)	Unacceptable	
206	MX-054	86	Positive	B63(9325)	Negative	no DSA	Unacceptable	
774	MX-054		Positive	B*15:16(5716)	Negative	no DSA	Unacceptable	
792	MX-054	100	Positive	B*15:16(4691), A*68:02(1293)	Positive	DQB1*03:01(1550), DQB1*03:02(982)	Unacceptable	
836	MX-054	99	Positive		Positive		Unacceptable	DSA 1000 MFI=Pos
1160	MX-054	79	Positive	B63(3379), A68(1073)	Positive	no DSA	Unacceptable	
2400	MX-054	92	Positive	A*68:02(2107), B*15:16(5403)	Positive	no DSA	Unacceptable	
3224	MX-054		Positive	A68(2500), B*15:16(6261)	Positive	DR7(2372), DQ8(1343)	Unacceptable	
3753	MX-054	95.7	Positive	A68(1424), B63(6694)	Positive	DR7(2362)	Acceptable	Proceed with immunosuppression
8001	MX-054	99	Positive	A*68:02(1786), B*15:16(6702)	Positive	DRB1*07:01(2001),DQB1*03:02(1307)	Unacceptable	C*07:01 is not included on LSAB panel
8050	MX-054	87	Positive	A68(1331), B63(8124)	Positive	DR7(2634)	Unacceptable	The serum displays DQA1*03:02(MFI=1481) antibodies. Donor's DQA typing is not available to determine if this is donor specific.
8083	MX-054	91	Positive	B*15:16(5321)	Negative		Unacceptable	
8096	MX-054		Positive	B63(2015), A68(1547)	Positive	DR7(1940)	Unacceptable	