

## Educational Crossmatching Scheme

Dispatched on the 19<sup>th</sup> July 2022

### Summary of Results

A total of 33 reports were received, but not all labs reported results for all tests.

Consensus HLA Type of whole blood donor sample EDXM 01/2022:

	A*	B*	C*	DRB1*	DRB3*	DQA1*	DQB1*	DPA1*	DPB1*
	01	37	06	03 (17)	01	01	02	01	04:01
	02	57	06	13	02	05	06	01	04:02
Number of reports	33	33	33	33	26	31	33	24	29
% Labs in consensus	100%	100%	100%	100%	88%	100%	100%	100%	97%

There were a number of errors noted when defining the genotype.

Of the 26 participants that reported a genotype at DRB3, 23 (88%) reported DRB3\*01, DRB3\*02. However, 2 participants (8%) reported DRB3\*01, DRB3\*- and 1 participant reported DRB3\*02:02, DRB3\*03:03.

Of the 29 participants that reported a genotype at DPB1, 28 (97%) reported DPB1\*04:01, DPB1\*04:02. However, 1 participant (3%) reported DPB1\*04:01, DPB1\*04:01/10.

### EDXM 01 Serum 1/2022 Results

#### HLA Antibody Detection and Definition

(Based on 75% Consensus)

		HLA Class I	No of labs	% consensus	HLA Class II	No of labs	% consensus
Detection	IgG	Positive	32/32	100%	No Consensus	13/32 Pos	41%
	IgM	Negative	2/2	100%	No Consensus	1/2 Pos	50%
Definition <sup>1</sup>	Total Number of Specificities Reported (by ≥ 1 lab, >1,000 MFI)	32			6		
	Number of Specificities Absent (reported by < 5% labs)	57			40		
	Number of Specificities Present (reported by ≥ 75% labs)	16			0		
	MFI >10000	Cw2, Cw4, Cw5, Cw6, Cw12, Cw15, Cw18	33	100%	N/A	33	N/A
	MFI 5000 - 9999	B63, Cw1, Cw9, Cw10, Cw14, Cw16, Cw17		91-100%	N/A		N/A
	MFI 2000 - 4999	B49, Cw7, Cw8		64-100%	N/A		N/A
	MFI 1000-1999			N/A	N/A		N/A

<sup>1</sup> 75% consensus 'present' specificities are displayed within the MFI value range reported by the majority of participants. Class I specificities n=89, Class II specificities n=46.

Crossmatching  
(Based on 75% Consensus)

	CDC						Flow Cytometry	
	PBL		T Cells		B Cells		T Cells	B Cells
	Without DTT	With DTT	Without DTT	With DTT	Without DTT	With DTT		
	Negative	Negative	Negative	Negative	No Consensus	Negative	Positive	Positive
Number of reports	4/5	4/4	15/15	14/14	6/12 Neg	10/13	27/28	22/26
% Labs in consensus	80%	100%	100%	100%	50%	77%	96%	85%

Interpretation

Identification of Donor Specific Antibodies:

Specificity	No of Participants (n=33)	MFI Range Reported
Cw6	33 (100%)	11088-27000
B57	23 (70%)	657-3036
DQ6	6 (18%)	900-3280
B37	1 (3%)	1298
DRB3*01:01 (IgM)	1 (3%)	6680

Crossmatch interpretation:

	<i>The most common responses included:</i>
Interpretation based on results	<ul style="list-style-type: none"> <li>CDC crossmatch negative</li> <li>Flow cytometry crossmatch positive</li> <li>Patient has Class I donor specific antibodies</li> </ul>
Assigned risk	<p>Medium n = 6 (19%)</p> <p>High n = 12 (37%)</p> <p>Contraindication n = 14 (44%)</p>
Immunological advice	<ul style="list-style-type: none"> <li>Not suitable for direct transplantation</li> <li>Donor is homozygous Cw6</li> <li>Consider de-sensitisation</li> <li>High risk of acute antibody mediated rejection</li> <li>If transplant proceeds use enhanced immunosuppression and post-transplant monitoring</li> </ul>
If advice is not to transplant, recommendations for future transplants	<ul style="list-style-type: none"> <li>Seek alternative donor such as deceased donor or kidney sharing scheme</li> <li>Possible antibody removal pre-transplant</li> <li>Longitudinal antibody monitoring to assess potential de-listing</li> <li>Investigate whether the patient is a suitable for a higher risk transplant</li> <li>Perform additional testing such as autologous crossmatching or antibody testing using additional kits</li> </ul>

**EDXM 01 Serum 2/2022 Results**

HLA Antibody Detection and Definition  
(Based on 75% Consensus)

		HLA Class I	No of labs	% consensus	HLA Class II	No of labs	% consensus
Detection	IgG	Negative	30/32	94%	Positive	32/32	100%
	IgM	Negative	2/2	100%	Negative	2/2	100%
Definition <sup>1</sup>	Total Number of Specificities Reported (by ≥ 1 lab, >1,000 MFI)	3			21		
	Number of Specificities Absent (reported by < 5% labs)	86			25		
	Number of Specificities Present (reported by ≥ 75% labs)	0			17		
	MFI >10000	N/A	33	N/A	DR103, DR16, DR17, DR18, DR4, DR11, DR12, DR13, DR14, DR7, DR8, DR9, DR51, DR52	33	91-100%
	MFI 5000 - 9999	N/A		N/A	DR15, DQ6		97-100%
	MFI 2000 - 4999	N/A		N/A	DR10		100%
	MFI 1000-1999	N/A		N/A	N/A		N/A

<sup>1</sup> 75% consensus 'present' specificities are displayed within the MFI value range reported by the **majority** of participants. Class I specificities n=89, Class II specificities n=46.

Crossmatching Results  
(Based on 75% Consensus)

	CDC						Flow Cytometry	
	PBL		T Cells		B Cells		T Cells	B Cells
	Without DTT	With DTT	Without DTT	With DTT	Without DTT	With DTT		
	No Consensus	No Consensus	Negative	Negative	Positive	Positive	Negative	Positive
Number of reports	3/5 Pos	2/4 Pos	14/15	13/14	13/13	14/14	24/28	26/26
% Labs in consensus	60%	50%	93%	93%	100%	100%	86%	100%

Interpretation

Identification of Donor Specific Antibodies:

Specificity	No of Participants (n=33)	MFI Range Reported
DR17	32 (97%)	11274-21451
DR13	32 (97%)	12419-30740
DQ6	29 (88%)	817-18504
DR52	27 (82%)	8402-22688
DQA1*05	1 (3%)	1503

Crossmatch interpretation:

	<i>The most common responses included:</i>						
Interpretation based on results	<ul style="list-style-type: none"> <li>• CDC crossmatch B cell positive</li> <li>• Flow cytometry crossmatch T cell negative, B cell positive</li> <li>• Class II donor specific antibodies present</li> </ul>						
Assigned risk	<table> <tr> <td>Medium</td> <td>n = 1 (3%)</td> </tr> <tr> <td>High</td> <td>n = 10 (31%)</td> </tr> <tr> <td>Contraindication</td> <td>n = 21 (66%)</td> </tr> </table>	Medium	n = 1 (3%)	High	n = 10 (31%)	Contraindication	n = 21 (66%)
Medium	n = 1 (3%)						
High	n = 10 (31%)						
Contraindication	n = 21 (66%)						
Immunological advice	<ul style="list-style-type: none"> <li>• Not suitable for direct transplantation</li> <li>• Consider de-sensitisation</li> <li>• High risk of hyperacute antibody mediated rejection</li> <li>• If transplant proceeds use enhanced immunosuppression and post-transplant monitoring</li> </ul>						
If advice is not to transplant, recommendations for future transplants	<ul style="list-style-type: none"> <li>• Seek alternative donor such as deceased donor or kidney sharing scheme</li> <li>• Possible antibody removal pre-transplant</li> <li>• Longitudinal antibody monitoring to assess potential de-listing</li> <li>• Investigate whether the patient is suitable for a higher risk transplant</li> <li>• Perform additional testing such as autologous crossmatching or antibody testing using additional kits</li> </ul>						

**EDXM 01 Serum 3/2022 Results**

HLA Antibody Detection and Definition

(Based on 75% Consensus)

		HLA Class I	No of labs	% consensus	HLA Class II	No of labs	% consensus
Detection	IgG	Negative	27/31	87%	Negative	30/31	97%
	IgM	No Consensus	1/2 Pos	50%	No Consensus	1/2 Pos	50%
Definition <sup>1</sup>	Total Number of Specificities Reported (by ≥ 1 lab, >1,000 MFI)	1			0		
	Number of Specificities Absent (reported by < 5% labs)	88			46		
	Number of Specificities Present (reported by ≥ 75% labs)	0			0		
	MFI >10000	N/A	33	N/A	N/A	33	N/A
	MFI 5000 - 9999	N/A		N/A	N/A		N/A
	MFI 2000 - 4999	N/A		N/A	N/A		N/A
	MFI 1000-1999	N/A		N/A	N/A		N/A

<sup>1</sup> 75% consensus 'present' specificities are displayed within the MFI value range reported by the **majority** of participants. Class I specificities n=89, Class II specificities n=46.

Crossmatching

(Based on 75% Consensus)

	CDC						Flow Cytometry	
	PBL		T Cells		B Cells		T Cells	B Cells
	Without DTT	With DTT	Without DTT	With DTT	Without DTT	With DTT		
	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative

Number of reports	5/5	4/4	15/15	14/14	11/13	14/14	28/28	26/26
% Labs in consensus	100%	100%	100%	100%	85%	100%	100%	100%

Interpretation

Identification of Donor Specific Antibodies:

Specificity	No of Participants (n=33)	MFI Range Reported
DQA1*05:01	1 (3%)	9481

Crossmatch interpretation:

	<i>The most common responses included:</i>
Interpretation based on results	<ul style="list-style-type: none"> <li>Negative CDC crossmatch</li> <li>Negative Flow cytometry crossmatch</li> <li>No DSAs detected</li> <li>Patient has no detectable HLA antibodies</li> </ul>
Assigned risk	Low/standard                      n = 32                      (100%)
Immunological advice	<ul style="list-style-type: none"> <li>Suitable for transplantation</li> <li>Standard immunosuppression and post-monitoring protocols</li> <li>Review match grade</li> <li>Confirm ABO compatibility</li> </ul>
If advice is not to transplant, recommendations for future transplants	<ul style="list-style-type: none"> <li>N/A</li> </ul>