International Quality Expertise

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## **Educational Crossmatching Scheme**

Dispatched on the 9<sup>th</sup> July 2019

### Summary of Results

A total of 34 reports were received, but not all labs reported results for all tests.

Consensus HLA Type of whole blood donor sample EDXM 01/2019:

	<b>A</b> *	<b>B</b> *	C*	DRB1*	DRB4*	DRB5*	DQA1*	DQB1*	DPA1*	DPB1*
	03	07	05	09	01	01	01	03	01	02:01
	32	15	07	15	-	-	03	06	-	126
Number of reports	34	34	33	34	23	23	29	34	19	20
% Labs in consensus	100%	100%	100%	100%	100%	100%	100%	100%	100%	65%

#### EDXM 01 Serum 1/2019 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	33	100%	Positive	33	100%
Dete	IgM	Negative	3	100%	Not Assessed	2	50%
	Total Number of Specificities Reported (by≥1 lab)	85			46		
	Number of Specificities Absent (reported by < 5% labs)	4			0		
on <sup>1</sup>	Number of Specificities Present (reported by ≥ 75% labs)	34			14		
Definition <sup>1</sup>	MFI >10000	A1 A3 A24 A11 A36 A80 B7 B13 B27 B2708 B60 B61 B42 B48 B67 B81		76-100%	DR17 DR18 DR11 DR12 DR13 DR14 DR7 DR8 DR52 DQ2		97-100%
	MFI 5001 - 9999	A30 A31 A32 A74 B55 B56 B73 B82	33	97-100%	DR9	33	100%
	MFI 2001 - 5000	A23 A25 A34 A66 A29 A33 B57 B54 B47		79-100%	DR15		97%
	MFI <2000	B58		82%	DR103 DR16		79-85%

<sup>1</sup>75% consensus 'present' specificities are displayed within the MFI value range reported by the **majority** of participants

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## Histocompatibility & Immunogenetics

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<u>Crossmatching</u>

(Based on 75% Consensus)

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		Flow Cy	tometry					
	PBL	-	T Cells		B Cells		T Cells	B Cells
	Without DTT With DTT		Without DTT	With DTT	Without DTT	With DTT	I Cells	D Cells
	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Number of reports	5/6	5/6	19/19	18/18	19/20	18/20	26/26	24/24
Labs in consensus	83%	83%	100%	100%	95%	90%	100%	100%

#### Interpretation

% Labs

Identification of Donor Specific Antibodies:

Specificity	No of Participants (n=33)	MFI Range Reported
A3	31 (94%)	6035-22066
A32	33 (100%)	1554-12452
B7	33 (100%)	8792-23377
DR9	31 (94%)	2720-8052
DR15	33 (100%)	535-4150
DQ6	3 (9%)	761-1400
DQ9	7 (21%)	1018-1600

Crossmatch interpretation:

	The most common responses included:				
Interpretation based on results	<ul> <li>Positive CDC crossmatch</li> <li>Positive T and B cell Flow Cytometry crossmatch</li> <li>Multiple Class I and Class II DSAs detected</li> </ul>				
Assigned risk	Medium $n = 2$ (6%)           High $n = 4$ (12%)           Contraindication $n = 28$ (82%)				
Immunological advice	<ul> <li>Immunologically high risk – Class I and Class II DSA present</li> <li>Do not proceed to transplant</li> </ul>				
If advice is not to transplant, recommendations for future transplants	Seek alternative donor: live, deceased or via a kidney sharing scheme. Use desensitisation. Possibly de-list weaker antibodies. Use assays to determine if antibodies are complement fixing.				

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#### EDXM 01 Serum 2/2019 Results

HLA Antibody Detection and Definition (Based on 75% Consensus) Correspondence to: UK NEQAS for H&I Welsh Blood Service Ely Valley Road Talbot Green Pontyclun CF72 9WB

		HLA Class I	No of labs	% consensus	HLA Class II	No of labs	% consensus
Detection	IgG	Positive	25	74%	Positive	34	100%
Det	IgM	Not Assessed	3	66.6%	Not Assessed	2	50%
	Total Number of Specificities Reported (by ≥ 1 lab)	86			46		
	Number of Specificities Absent (reported by < 5% labs)	3			0		
on <sup>1</sup>	Number of Specificities Present (reported by ≥ 75% labs)	1			4		
Definition <sup>1</sup>	MFI >10000	N/A		N/A	DQ7 DQ8 DQ9		100%
	MFI 5000 - 9999	N/A	33	N/A	N/A	33	N/A
	MFI 3000 - 4999	A66	00	79%	N/A	55	N/A
	MFI 1500 –2999	N/A		N/A	DR4		91%

<sup>1</sup> 75% consensus 'present' specificities are displayed within the MFI value range reported by the majority of participants

### Crossmatching Results

(Based on 75% Consensus)

		Flow Cy	rtometry					
	PBL	-	T Cel	lls	B Cel	lls	T Cells	B Cells
	Without DTT	With DTT	Without DTT	With DTT	Without DTT	With DTT	I Cells	D Cells
	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Not Assessed
Number of reports	6/6	6/6	19/19	18/18	18/20	19/20	25/26	11/26
% Labs in consensus	100%	100%	100%	100%	90%	95%	96%	42%

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### Interpretation

Identification of Donor Specific Antibodies:

Specificity	No of Participants (n=33)	MFI Range Reported
A3	1 (3%)	<1000
A66	1 (3%)	2437
B7	5 (15%)	645-1411
DQ7	3 (9%)	12965-17739
DQ8	3 (9%)	6929-14627
DQ9	33 (97%)	6088-21575

Crossmatch interpretation:

	The most common responses included:					
Interpretation based on results	<ul> <li>Negative CDC B crossmatch</li> <li>Positive B cell Flow Cytometry crossmatch</li> <li>DQ9 DSA</li> </ul>					
Assigned risk	Low $n = 3$ (9.1%)Medium $n = 10$ (30.3%)High $n = 10$ (30.3%)Contraindication $n = 10$ (30.3%)					
Immunological advice	<ul> <li>Perform antibody removal prior to transplant</li> <li>Do not proceed to transplant</li> <li>Regular post-transplant monitoring with increased immunosuppression</li> </ul>					
If advice is not to transplant, recommendations for future transplants	Seek alternative donor: live, deceased or via a kidney sharing scheme. HLAi use appropriate desensitisation. Use assays to determine if antibodies are complement fixing.					

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### EDXM 01 Serum 3/2019 Results

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

(	ed on 75% consens	HLA Class I	No of labs	% consensus	HLA Class II	No of labs	% consensus
Detection	lgG	Negative	33	100%	Negative	33	100%
Dete	lgM	Negative	3	100%	Negative	2	100%
	Total Number of Specificities Reported (by ≥ 1 lab)	84			44		
	Number of Specificities Absent (reported by < 5% labs)	5			2		
ion <sup>1</sup>	Number of Specificities Present (reported by ≥ 75% labs)	0			0		
Definition <sup>1</sup>	MFI >10000	N/A		N/A	N/A		N/A
	MFI 5001 - 9999	N/A	33	N/A	N/A	33	N/A
	MFI 2001-5000	N/A	33	N/A	N/A	33	N/A
	MFI <2000	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

#### Crossmatching

(Based on 75% Consensus)

		Flow Cyt	ometry					
	P	PBL T Cells		B Cells				
	Without DTT	With DTT	Without DTT	With DTT	Without DTT	With DTT	T Cells	B Cells
	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Negative
Number of reports	6/6	6/6	19/19	18/18	20/20	20/20	25/26	23/24
% Labs in consensus	100%	100%	100%	100%	100%	100%	96%	96%

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### Interpretation

No Donor Specific Antibodies detected.

Crossmatch interpretation:

	The most common responses included:					
Interpretation based on results	<ul> <li>Negative CDC crossmatch</li> <li>Negative Flow Cytometry crossmatch</li> <li>No DSAs detected</li> <li>Suitable for transplant</li> </ul>					
Assigned risk	Low n = 30 (100%)					
Immunological advice	<ul> <li>Low/standard risk transplant</li> <li>Standard immunosuppressive treatment</li> <li>No additional interventions or monitoring required</li> <li>Post-transplant monitoring</li> </ul>					
If advice is not to transplant, recommendations for future transplants	N/A – proceed to transplant					