UK NEQAS for H&I Scheme 2B - Crossmatching by Flow Cytometry

T-CELL AND B-CELL FLOW CYTOMETRY RESULTS OF SAMPLE 2B05/2018 PC (COMPARED TO LOCAL NEGATIVE CONTROL)

DISPATCHED ON 10 JULY 2018

HLA PHENOTYPE OF BLOOD DONOR: HLA-A2, A11; B13, B62; Cw6, Cw9; DR13, DR-; DQ6, DQ7

Summary of Results

	T-cells				B-cells			
Total tested	42	42	41	41	39	39	38	38
Positive	29	9	38	1	35	6	38	1
Negative	12	29	3	40	4	30	0	37
Equivocal	1	4	0	0	0	3	0	0
NT	3	3	4	4	3	3	4	4
% Positive	69.0%	21.4%	92.7%	2.4%	89.7%	15.4%	100.0%	2.6%
% Negative	28.6%	69.0%	7.3%	97.6%	10.3%	76.9%	0.0%	97.4%
% Equivocal	2.4%	9.5%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%
Consensus	**Not Assessed**	**Not Assessed**	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**
HLA Antibody Specificity (Defined By CDC)	Cw5 Cw6	A1	Multi	Negative	Cw5 Cw6	A1	Multi	Negative

Lab No.	Assessment T-cells	Assessment B-cells	T-cells Serum 1	T-cells Serum 2	T-cells Serum 3	T-cells Serum 4	B-cells Serum 1	B-cells Serum 2	B-cells Serum 3	B-cells Serum 4	Date Received	Date Tested	Comments
112	YES	YES	NT	NT	NT	NT	NT	NT	NT	NT	11-Jul	13-Jul	Cells with 0% viability
115	YES	YES	Negative	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
117	YES	YES	Positive	Negative	Positive	NT	Positive	Negative	Positive	NT	12-Jul	11-Jul	Serum 4 gave results with bad replication
118	YES		Positive	Negative	Positive	Negative					11-Jul	12-Jul	Samples contained clumps
120	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
122	YES	YES	Positive	Positive	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
130	YES	YES	Negative	Negative	***Negative***	Negative	***Negative***	Negative	Positive	Negative	11-Jul	13-Jul	
133	YES	YES	Negative	Negative	Positive	Negative	***Negative***	Negative	Positive	Negative	11-Jul	11-Jul	Sample 2 - MFI reading indicates low pos T-cells but B-cells are neg. Routine is to request new samples
138	YES		Negative	Negative	Positive	Negative					11-Jul	11-Jul	
139	YES	YES	NT	NT	NT	NT	NT	NT	NT	NT	13-Jul	12-Jul	Technical problem
143	YES		NT	NT	NT	NT					11-Jul	12-Jul	NT due to poor viability. In clinical setting, new samples requested
144	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
145	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul		
147	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	13-Jul	
149	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
154	YES	YES	Positive	Equivocal	Positive	Negative	Positive	***Equivocal***	Positive	Negative	11-Jul	12-Jul	Reaction near the cut-off
157	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	11-Jul	
159	YES	YES	Positive	Equivocal	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	20-Jul	Equivocal because pos on T-cells and neg on B-cells.
160	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
163	YES	YES	Positive	Positive	Positive	Negative	Positive	***Positive***	Positive	Negative	11-Jul	12-Jul	
167	YES	YES	Positive	Equivocal	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
169	YES	YES	Negative	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
176	YES	YES	Positive	Negative	Positive	Negative	NT	NT	NT	NT	11-Jul	16-Jul	Insufficient number of B-cells. Had we reached a sufficient number of cells for robust results, the results would have been reported as follows for B cells: Serum 1 (Positive) Serum 2 (Positive) Serum 3 (Positive) Serum 4 (Negative)
189	YES	YES	Negative	Negative	***Negative***	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
190	YES	YES	Positive	Positive	Positive	Negative	Positive	***Positive***	Positive	Negative	11-Jul	12-Jul	
191	YES	YES	Negative	Positive	Positive	Negative	***Negative***	Negative	Positive	Negative	11-Jul	12-Jul	
193	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
194	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	11-Jul	
195	YES	YES	Negative	Negative	Positive	Negative	Positive	Negative	Positive	Negative	13-Jul	13-Jul	We received samples with aggregated cells.
201	YES	YES	Positive	Negative	NT	Negative	Positive	Negative	NT	Negative	11-Jul	12-Jul	NT due to precipitation of suspension.
209	YES	YES	Positive	Positive	Positive	Negative	Positive	***Equivocal***	Positive	Negative	11-Jul	12-Jul	
218	YES	YES	Positive	Equivocal	Positive	***Positive***	Positive	***Positive***	Positive	***Positive***	11-Jul	17-Jul	
220	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
235	YES	YES	Negative	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	11-Jul	
238	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	Serum 1 weak but antibody Cw 6 MFI 11277
240	YES	YES	Positive	Positive	Positive	Negative	Positive	***Positive***	Positive	Negative	11-Jul	12-Jul	
246	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	11-Jul	
252	YES	YES	Negative	Negative	Positive	Negative	Positive	Negative	Positive	Negative	12-Jul	12-Jul	
260	YES	YES	Equivocal	Negative	Positive	Negative	Positive	Negative	Positive	Negative	12-Jul	12-Jul	
262	YES	YES	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	11-Jul	
271	YES	YES	Positive	Positive	Positive	Negative	Positive	***Positive***	Positive	Negative	11-Jul	13-Jul	The cells were clotted.
276	YES	YES	Positive	Positive	Positive	Negative	Positive	***Positive***	Positive	Negative	11-Jul	13-Jul	
293	YES	YES	Negative	Negative	Positive	Negative	Positive	Negative	Positive	Negative	11-Jul	12-Jul	
297	YES	YES	Positive	Positive	Positive	Negative	Positive	***Equivocal***	Positive	Negative	11-Jul	12-Jul	
351	YES	YES	Negative	Negative	***Negative***	Negative	***Negative***	Negative	Positive	Negative	11-Jul	14-Jul	
392	YES	YES											No results returned

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T-CELL FLOW CYTOMETRY RESULTS OF SAMPLE 2B05/2018 (COMPARED TO LOCAL NEGATIVE CONTROL)

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Lab No.	Serum 1 cytometer reading	Serum 2 cytometer reading	Serum 3 cytometer reading	Serum 4 cytometer reading	Negative control (local)	Positive control (local)	Strong positive (local)	Weak positive (local)	Positive result value	Cytometer reading units	Viability (%)
112	NT	NT	NT	NT	NT	NT					0
115	392	248	491	205	377	443			>40 linear	median linear	
117	18.61	4.37	35.35		3.68	76.35			Ratio (RMF) >1.3	median log channel	95
118	235	151	318	124	111	730			177 (111+66)	median linear	
120	2.04	1.51	7.54	1.05	42	3538.5			ratio >1.6	median	100
122	54.5	13	95	7	7		125	31	3SD	geo mean linear	98
130	134	167	150	132	142	257			40	channels	99
133	0.9	1.6	2.7	0.3	0.2	151.5			2SD	MFI	100
138	0.12	0.05	0.79	0.07	0	0.91			greater than 0.2	D value	
139											
143	NT	NT	NT	NT	NT	NT			40channel shift	mean channel	58
144	2.33	1.41	5.96	1.17	1148	8.41			1.6	mean /median	
145	0.879	0.589	3.22	0.541	0.391	34.7			2SD of ratio	median log channel	85
147	203	148	270	125	122	612			>40 linear channel shift	linear channel	100
149	0.472	0.35	1.415	0.271	0.31	41			2SD	median log channel	88
154	184	68	579	44	39	2377			median >1.5x	median	
157	186	131	404	117	115	3761			2SD (cut off 143)	median log	99
159	320	251	427	184	191	510			40 linear channel	linear channel	50
160	33.6	10.4	71.7	5.9	5.8	183			>12.7 (negative + 2SD)	mean linear channel	
163	11.8	4	46.2	1	1	18.1			2.3 (ratio above)	geomean linear channel	96
167	350	235	1159	185	180	10655			2SD	median log channel	98
169	265	228	335	209	243	506			>= 50 channel	median	97
176	0.58	0.31	0.98	0	0	1			MFI shift >= 0.40	MFI shift	
189	3.24	0.62	3.47	1.74	0.08	99.94			>5%	%	80
190	121	69.3	361	46	43.7	1000			ratio>1.5	MFI median	89
191	5	51	201	-24	0	602			>30	MFI	95
193	17.2	9.2	84.4	4.45	4.2	105.91			negative control	geometric mean	
194	1.3	0.85	5.3	0.45	0.5	19			ratio>2.2	median MFI	0.9
195	235	228	361	210	192	730			test/negative control >= 1.3	median log channel	80
201	1.11	555	NT	459	0.44	24.4			S/NK>=2	X-mean	97
209	1100 (5.1)	537 (2.5)	4313 (20)	212 (1)	216	1474 (6.8)			ratio>1.6	geometric mean	98
218	697	164	3121	530	109.92	1817.5			1.2xlowest	MFI	
220	9983	5422.5	105202	1529	2191.75	261734			6000	linear acquisition	97
235	5.38	4.78	13.22	5.38	4.22	102.74			2 median log	median log	85
238	1593	1340	3413	1081	1282	14790			MESF serum / MESF negative control	MESF	
240	44	29	49	14	14	985			1.2*NC	MFI	50
246	6.78	1.19	10.46	1.09		5.05			1.75	MFI	93.3
252	0.32	1.15	1.6	1.11	181.06	609.76			median ratio +/- 2SD	median channel ratio	
260	23.81	5.14	56.72	5.34	6.52	99.51			>25% shift	% shift	
262	1596	1080	3682	838	668	22939			2SD	mean channel	84
271	332	258	455	168	164	415			64	median log	91
276	388	248	1862	151	178	10421			>1.25x	median	97
293	5.57	3.46	17.62	3.43	4.53	134.56			10 channel shift	channel shift	80
297	381	168	901	41	88	363			1.3 x Tneg (grey zone 1.3-1.8)	MFI	
351	204.5	197.5	229.5	190.5	187	492			2.5SD	MCS	53
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B-CELL FLOW CYTOMETRY RESULTS OF SAMPLE 2B05/2018 (COMPARED TO LOCAL NEGATIVE CONTROL)

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Lab No.	Serum 1 cytometer reading	Serum 2 cytometer reading	Serum 3 cytometer reading	Serum 4 cytometer reading	Negative control (local)	Positive control (local)	Strong positive (local)	Weak positive (local)	Positive result value	Cytometer reading units	Viability (%)
112	NT	NT	NT	NT	NT	NT				Median log channel	0
115	591.00	335.00	724.00	248.00	416.00	736.00			>60	Median linear channel shift	
117	119.18	10.56	210.19	NT	9.88	311.16			Ratio (RMF) >1.5	Median log channel	95
120	4.29	1.38	11.95	1.37	213.50	5936.00			ratio >2	Median	100
122	409.00	71.50	878.00	43.00	39.00		466.00	143.00	3SD	Geomean liner value	98
130	173.00	228.00	355.00	159.00	192.00	449.00			80-100	Channels	99
133	4,0	5,3	21,8	0,4	1,9	373,4			2sd	MFI	100
139	NT	NT	NT	NT	NT	NT					
144	4.69	1.34	11.30	1.20	3196.00	6.88			2.6	Mean/Median→Ratio	
145	2.75	0.99	23.10	0.54	1.87	12.50			2SD of the ratio	Median log channel	85
147	404.00	198.00	487.00	164.00	161.00	765.00			>60 linear channel shift	Linear channel	100
149	1.77	0.53	16.25	0.38	1.10	70.00			2SD	Median log channel	88
154	1242.00	231.00	4859.00	128.00	107.00	4225.00			median > 2 x NC	Median fluorescence	
157	474	155	2065	147	147	8005			2SD (cut off 183)	Median log channel	99
159	579	388	687	324	323	673			100 linear channel shift (673)	Linear channel	50
160	377	46.1	1018	30.8	31.8	448			>63.3 (Neg+2SD)	Mean linear channel	
163	11.6	2.8	45.6	1.5	1	6.7			1.7 (ratio above)	Geomean linear channel	96
167	1645	808	10776	764	653	34675			2SD	Median log channel	98
169	438	269	532	252	317	690			≥80 channel	Median channel	97
176	1.04	0.24	1.5	-0.01	0	0.83			MFI shift >= 0.22	MFI shift	N/D
189	25.36	4.27	45.71	6.48	2.21	99.99			>%8	Percentage	80
190	795	181	1000	98.3	68	1000			ratio>2.5	MFI median	89.3
191	-3	38	211	-73	0	535			>100	MFI	0.95
193	201.78	39.82	526.49	30.05	22.7	308.8			NC mean x2.3	Geometric mean linear channel	
194	10	2.9	32	1.5	1.7	100			ratio>4	Medin MFI	0.9
195	368	230	1417	219	186	1334			Test/NC ≥1.6	Median log channel	80
201	8,1	1,99	NT	1,21	1,25	76,6			S/NK ≥ 2,5	X-Mean	97
209	12288 (8.7)	2587 (1.8)	36516 (26.0)	1802 (1.3)	1406	5353 (3.8)			Ratio>1.7	Geometric mean value	98 %
218	7545	2666	21361	2342	1817	3370			1.5x lowest negative	MFI	Not tested
220	29808	6817,5	261704,5	6104	4218,75	261800			6000 above the mean of the NC	Linear acquisition	97
235	14.46	5.05	77.74	4.49	2.02	710.5			12 MLC above the NC = Pos	Median log channel	85
238	6639	2151	17565	1678	1826	25709			MESF serum/MESF NC	MESF	
240	1200	1040	2271	860	719	2200			1.4 x NC	MFI	50
246	12.91	0.96	17.44	0.74		22.29			2.5	MFI	93.3
252	1.58	1.26	2.80	1.05	179.43	2916.38			Median ratio ±2SD	Median channel ratio	
260	64.48%	12.34%	99.08%	11.74%	10.15%	99.81%			>25% shift	% shift	
262	7853	1492	21239	1187	908	58884			2SD	Mean channel shift	84
271	511	307	666	207	174	673			90	Median log channel	91
276	4855	643	16480	448	406	15984			>1,25x	MFI	96,77
293	93.06	17.62	182.69	6.04	26.18	194.56			20 Cchannel shift	Channel shift	80
297	1729	248	4968	74	142	665			1.5X Tneg (grey zone 1.5-2)	MFI	
351	270.5	243	373	223	233	563			2.5 SD	MCS	0.53
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