UK NEQAS
Leucocyte Immunophenotyping

Sheffield Teaching Hospitals NHS
NHS Foundation Trust

Leukaemia Immunophenotyping (Part 1) Programme

All Participant Report

Distribution - 212206 | Sample - 212206 | Participant ID -

Date Issued - 10 March 2022 | Closing Date - 30 March 2022

Trial Comments

This exercise was issued to 314 participants.
There was generally good consensus for the commonly tested antigens with CD22 being the exception. The details for any reasons for this will be covered in the corresponding LDI 212206 report.

Sample Comments

The sample was manufactured by UK NEQAS using a sample of blood from a leukaemia patient which was stabilised and added to a stabilised unit of whole blood.

Trial Results

Please note - to allow for concise reports only antigens tested by >=50% of participants are shown in the following tables and charts. The antigens used for performance monitoring are highlighted in bold.

Antigens Tested	Number of Participants Testing (% value in brackets)	Your Result (Positive/ Negative)	Consensus Result (Positive/Negative)	Your Intensity of Staining	Consensus Intensity of Staining
CD19	287 (100%)	Positive	Positive	Strong	Strong
CD5	281 (98%)	Positive	Positive	Strong	Strong
CD20	279 (97%)	Positive	Positive	Weak	Weak
CD45	278 (97%)	Positive	Positive	Strong	Strong
CD10	275 (95%)	Negative	Negative	Absent	Absent
CD23	273 (95%)	Positive	Positive	Strong	Strong
CD200	246 (85%)	Positive	Positive	Strong	Strong
CD3	239 (83%)	Negative	Negative	Absent	Absent
CD38	231 (80%)	Negative	Negative	Absent	Absent
CD79b	226 (78%)	Negative	Negative	Absent	Absent
CD43	207 (72%)	Positive	Positive	Strong	Strong
CD22	172 (60%)		Positive		Weak
FMC7	166 (58%)	Negative	Negative	Absent	Absent
CD8	148 (51%)		Negative		Absent
Kappa	148 (51%)	Positive	Positive	Weak	Weak
Lambda	148 (51%)	Negative	Negative	Absent	Absent
CD4	145 (50%)		Negative		Absent

Panel Design and Result Analysis

Number of antigens in top 10 tested within your panel	Panel Design Performance Grade	Panel Design Performance Classification	Antigen Results Within Consensus	Antigen Testing Performance Classification	Overall Performance Classification
10	A	Satisfactory	10	Satisfactory	Satisfactory

Please note - Participants with 4 antigens or less appearing in the top 10 most tested antigens will automatically receive a Critical Overall Performance Classification as Panel Design Performance will be classed as Critical.

Leukaemia Immunophenotyping (Part 1) Programme

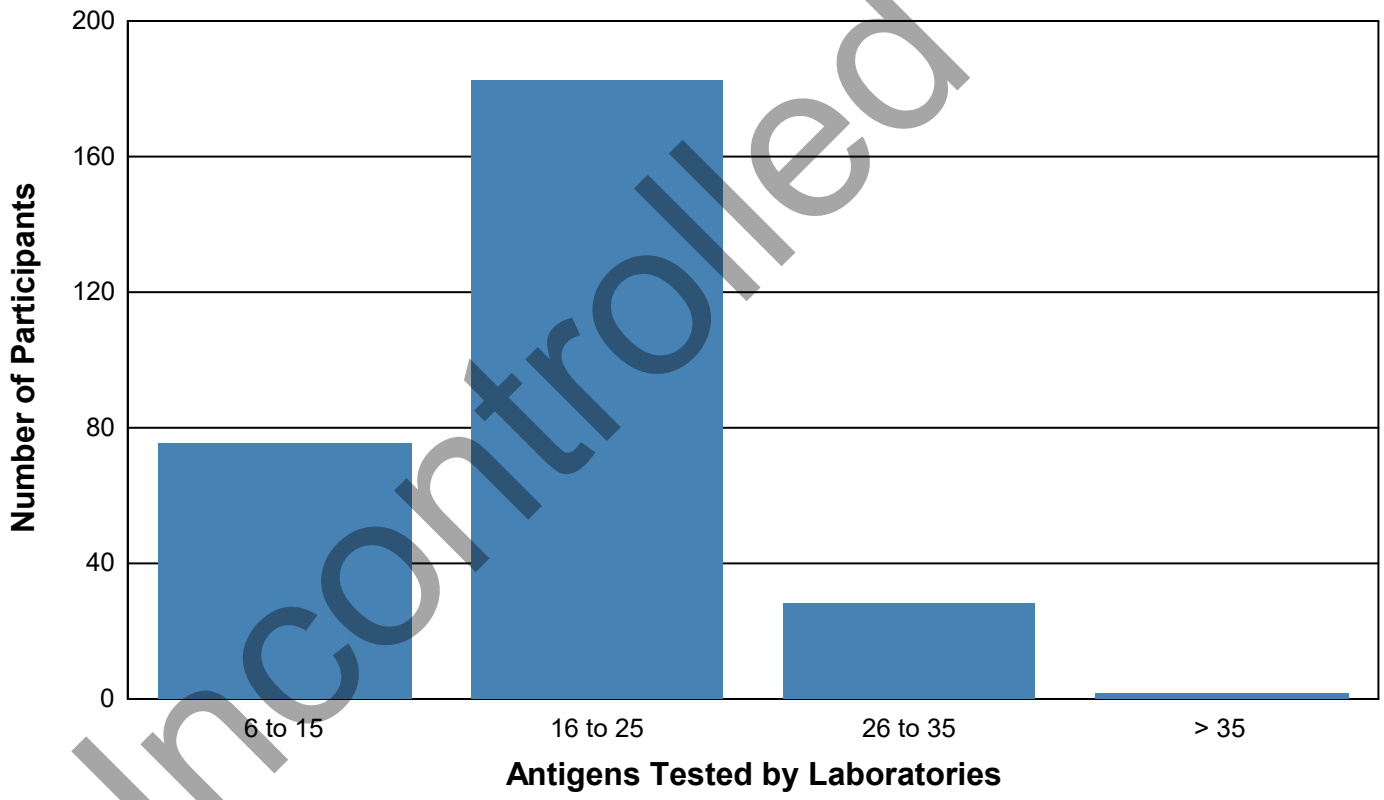
Overall Performance for this Trial

Performance Status for this Trial	Performance Status Classification Over 12 Month Period	
	Satisfactory	Critical
Satisfactory	6	0

Individual Laboratory Antibody Usage Analysis

Individual Antigens Tested by Your Laboratory	All Laboratories Antigens Tested		
	Median	Minimum	Maximum
17	18	6	42

All Laboratories Antigens Tested Chart



Leukaemia Immunophenotyping (Part 1) Programme

Table showing the breakdown of participant returns according to antibody manufacturer

N.B. To allow for concise reports only antigens tested by >=50% of participants and with manufacturer group >20 users across all reagents are shown. Please note, numbers in all tables may not equal the number of participants due to not all participants providing all information or to some participants performing multiple combinations of techniques. The 'Total Results' column reflects all results returned, as small user groups are not shown on the table individual row totals may differ from that shown in 'Total Results'.

Antigen	Result	Intensity	Total Results (All Data)	BD Biosciences	Beckman Coulter	Dako	Cytognos	Immunotech	exbio	BioLegend	Pharmingen	invitrogen	Other	eBioscience	IQ Products	Abcam	Miltenyi Biotec	Immunostep
CD10	Negative (-)	Absent	274	152	104	4		4	3	1	1		1			1		1
		Weak	1		1													
CD19	Negative (-)	Absent	1		1													
	Positive (+)	Weak	45	24	20				1									
		Strong	241	122	100	1	3	5	1	4		1	1			1		1
CD20	Negative (-)	Absent	39	15	22					1					1			
		Weak	5	2	3													
	Positive (+)	Weak	202	130	50		3	2	2	10			1			1	1	
		Strong	33	19	9		1		1	1				1			1	
CD200	Positive (+)	Weak	18	8	6		1		1	1		1						
		Strong	228	134	47		1	2	3	4	16	5	1	13			1	
CD22	Negative (-)	Absent	71	24	38			3	2	1		1						1
		Weak	2		2													
		Strong	1	1														
	Positive (+)	Weak	83	64	14					2			1					
		Strong	15	10	4							1						
CD23	Negative (-)	Absent	3	1	2													
	Positive (+)	Weak	49	18	21	7		1	1									
		Strong	221	134	60	17		1	3		2		1		1	1		
CD3	Negative (-)	Absent	228	142	72		3	1	2				1	2		1	2	
	Positive (+)	Weak	3		3													
		Strong	8	4	4													
CD38	Negative (-)	Absent	217	134	67		3	3	3	3			1					
		Weak	2	1	1													
	Positive (+)	Weak	10	7	3													
		Strong	2	1	1													
CD4	Negative (-)	Absent	135	78	44		2	1		7	1		1					
		Weak	3	1	2													
	Positive (+)	Weak	4	2	2													
		Strong	3	2	1													
CD43	Negative (-)	Absent	2	1	1													
	Positive (+)	Weak	29	19	8	1					1							
		Strong	176	110	40	1		2	5		12		1					1
CD45	Positive (+)	Weak	50	22	21			2	2		1	2						
		Strong	228	139	68	1	3	2	2	2		5	1					
CD5	Negative (-)	Strong	1	1														
	Positive (+)	Absent	1	1														
		Weak	35	22	11													
		Strong	244	151	74	1	3	5	5	1		1	1			1		
CD79b	Negative (-)	Absent	185	118	44	7		2	4	3	4		1				1	

Leukaemia Immunophenotyping (Part 1) Programme

Table showing the breakdown of participant returns according to antibody manufacturer

N.B. To allow for concise reports only antigens tested by >=50% of participants and with manufacturer group >20 users across all reagents are shown. Please note, numbers in all tables may not equal the number of participants due to not all participants providing all information or to some participants performing multiple combinations of techniques. The 'Total Results' column reflects all results returned, as small user groups are not shown on the table individual row totals may differ from that shown in 'Total Results'.

Antigen	Result	Intensity	Total Results (All Data)	BD Biosciences	Beckman Coulter	Dako	Cytognos	Immunotech	exbio	BioLegend	Pharmingen	invitrogen	Other	eBioscience	IQ Products	Abcam	Miltenyi Biotec	Immunostep
CD79b		Weak	4	2	2													
	Positive (+)	Weak	29	20	7			2										
		Strong	8	2	6													
CD8	Negative (-)	Absent	141	79	47	1	9	2					1		1			
		Weak	2		2													
	Positive (+)	Weak	2	1	1													
		Strong	3	2	1													
FMC7	Negative (-)	Absent	158	72	70	7	2	4										1
		Weak	1		1													
	Positive (+)	Weak	6	3	3													
		Strong	1	1														
Kappa	Negative (-)	Absent	69	39	4	19	4		1						1			
		Weak	2		1	1												
	Positive (+)	Weak	42	10	14	13	3						1		1			
		Strong	35	6	22	6	1											
Lambda	Negative (-)	Absent	123	45	40	29	6						1		2			
		Weak	2		1	1												
	Positive (+)	Weak	14	8		4	1											
		Strong	9	2		5	2											

Leukaemia Immunophenotyping (Part 1) Programme

Table showing the breakdown of participant returns according to antibody fluorochrome

N.B. To allow for concise reports only antigens tested by >=50% of participants and with groups >20 users across all reagents are shown. Please note, numbers in all tables may not equal the number of participants due to not all participants providing all information or to some participants performing multiple combinations of techniques. The 'Total Results' column reflects all results returned, as small user groups are not shown on the table individual row totals may differ from that shown in 'Total Results'.

Antigen	Result	Intensity	Total Results (All Data)	FITC	PE	APC	PerCP-CY5.5	APC-H7	PE-CY7	V450	Pacific Blue	PC7	PC5.5	ECD	V500	APC-Alexa 750	Krome Orange	V500-C
CD10	Negative (-)	Absent	274	13	107	53	2	3	30	3		15	7	6		6		
		Weak	1										1					
CD19	Negative (-)	Absent	1	1														
	Positive (+)	Weak	45		1	6	4	2	12		1	3	2	7				
		Strong	241	3	6	21	18	5	90	2	4	23	3	33		2		
CD20	Negative (-)	Absent	39	5		4	1	2		4	4	1		1		4		
		Weak	5	1		1				1		1						
	Positive (+)	Weak	202	14	4	13	11	10	5	69	30	5	2		1	4		
		Strong	33	3	1	2	1	1	1	13	10							
CD200	Positive (+)	Weak	18	1	1	4			1	2		2				2		
		Strong	228		62	101		1	7	6		23				6		
CD22	Negative (-)	Absent	71	5	15	13	4		3		2	4	5					
		Weak	2			1						1						
		Strong	1				1											
	Positive (+)	Weak	83	8	29	23	4		2				2					
		Strong	15	2	6	4							1					
CD23	Negative (-)	Absent	3									1						
	Positive (+)	Weak	49	16	12	9						2		4				
		Strong	221	64	76	37	1		5		4	6	1	7				
CD3	Negative (-)	Absent	228	21	4	64	17	25	2	8	14	3	6	4		9		
	Positive (+)	Weak	3	1										1				
		Strong	8	1		2					1			1		2		
CD38	Negative (-)	Absent	217	13	18	19	3	69	18	3	5	5	5	2		6		
		Weak	2		1								1					
	Positive (+)	Weak	10	2	1			3			2				1			
		Strong	2					1			1							
CD4	Negative (-)	Absent	135	13	15	17	4	4	9	36	15	5		4				
		Weak	3		1					1			1					
	Positive (+)	Weak	4	1	2					1								
		Strong	3			1			1	1								
CD43	Negative (-)	Absent	2		1			1										
	Positive (+)	Weak	29	12	1	1		10								3		
		Strong	176	44	13	11	1	70		3						12		
CD45	Positive (+)	Weak	50		1		2	3			1	2			7	1	13	3
		Strong	228	5	1	2	5	14	2	4		3	1	3	57		31	40
CD5	Negative (-)	Strong	1															
	Positive (+)	Absent	1				1											
		Weak	35	2	3	2	12		3		1		7	1				
		Strong	244	24	13	23	74		20	4	3	9	20	6		2		
CD79b	Negative (-)	Absent	185	16	37	33	60					1	16	1				

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CD79b		Weak	4		2	2												
	Positive (+)	Weak	29	1	5	6	11						3					
		Strong	8		1	1	1						5					
CD8	Negative (-)	Absent	141	68	15	2	2	6	3	1	4	4	2	8	1	1		
		Weak	2	1		1												
	Positive (+)	Weak	2	1										1				
		Strong	3	1				1										
FMC7	Negative (-)	Absent	158	113						15	22							
		Weak	1	1														
	Positive (+)	Weak	6	1						3	2							
		Strong	1							1								
Kappa	Negative (-)	Absent	69	31	32	4												
		Weak	2	1	1													
	Positive (+)	Weak	42	31	8													
		Strong	35	25	7				1	1								
Lambda	Negative (-)	Absent	123	28	88			2										
		Weak	2		2													
	Positive (+)	Weak	14	13	1													
		Strong	9	8	1													

Reference:

1. Dworzak, M. N., Buldini, B., Gaipa, G., Ratei, R., Hrusak, O., Luria, D., ... Basso, G. (2018). AIEOP-BFM Consensus Guidelines 2016 For Flow Cytometric Immunophenotyping of Pediatric Acute Lymphoblastic Leukemia. Cytometry Part B: Clinical Cytometry, 94B, 82-93.

Information with respect to compliance with standards BS EN ISO/IEC 17043:2010

4.8.2 a) The proficiency testing provider for this programme is:
UK NEQAS for Leucocyte Immunophenotyping
Pegasus House, 4th Floor Suite
463A Glossop Road
Sheffield, S10 2QD
United Kingdom
Tel: +44 (0) 114 267 3600
e-mail: amanda.newbould@ukneqasli.co.uk

4.8.2 b) The coordinators of UK NEQAS LI programmes are Mr Liam Whitby (Director) and Mr Stuart Scott (Centre Manager).

4.8.2 c) Person(s) authorizing this report:
Mr Liam Whitby (Director) or Mr Stuart Scott (Centre Manager) of UK NEQAS LI.

4.8.2 d) No activities in relation to this EQA exercise were subcontracted.

4.8.2 g) The UK NEQAS LI Confidentiality Policy can be found in the Quality Manual which is available by contacting the UK NEQAS LI office. Participant details, their results and their performance data remain confidential unless revealed to the relevant NQAAP when a UK participant is identified as having performance issues.

4.8.2 i) All EQA samples are prepared in accordance with strict Standard Operational Procedures by trained personnel proven to ensure homogeneity and stability. Where appropriate/possible EQA samples are tested prior to issue. Where the sample(s) issued is stabilised blood or platelets, pre and post stability testing will have proved sample suitability prior to issue.

4.8.2 l), n), o), r) & s) Please refer to the UK NEQAS LI website at www.ukneqasli.co.uk for detailed information on each programme including the scoring systems applied to assess performance (for BS EN ISO/IEC 17043:2010 accredited programmes only). Where a scoring system refers to the 'consensus result' this means the result reported by the majority of participants for that trial issue. Advice on the interpretation of statistical analyses and the criteria on which performance is measured is also given. Please note that where different methods/procedures are used by different groups of participants these may be displayed within your report, but the same scoring system is applied to all participants irrespective of method/procedure used.

4.8.2 m) We do not assign values against reference materials or calibrants.

4.8.2 q) Details of the programme designs as authorized by The Steering Committee and Specialist Advisory Group can be found on our website at www.ukneqasli.co.uk. The proposed trial issue schedule for each programme is also available.

4.8.2 t) If you would like to discuss the outcomes of this trial issue, please contact UK NEQAS LI using the contact details provided. Alternatively, if you are unhappy with your performance classification for this trial, please find the appeals procedure at www.ukneqasli.co.uk/contact-us/appeals-and-complaints/

4.8.4) The UK NEQAS LI Policy for the Use of Reports by Individuals and Organisations states that all EQA reports are subject to copyright, and, as such, permission must be sought from UK NEQAS LI for the use of any data and/or reports in any media prior to use. See associated policy on the UK NEQAS LI website: http://www.ukneqasli.co.uk/eqa-pt-programmes/new-participant-information/