UK NEQAS
Leucocyte Immunophenotyping

Sheffield Teaching Hospitals NHS
NHS Foundation Trust

CD34+ Stem Cell Enumeration Programme
All Participant Report

Distribution - 232402   Sample - 310   Participant ID -

Date Issued - 27 June 2023   Closing Date - 17 July 2023   Machine Used - FACSCanto II

Trial Comments

This exercise was issued to 368 participants. Results were returned by 341 participants. This is the final version of the report.

Sample Comments

The sample was manufactured by UK NEQAS LI using stabilised CD34+ samples and stabilised leucodepleted blood

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Absolute Values Results and Performance

Please note: Performance monitoring for this programme is on absolute values only. Percentage results are shown for information purposes only.

Cell Population	Your Results (cells/µL)	Robust Mean (cells/µL)	Robust SD (cells/µL)
CD34 Absolute Values	4.59	5.88	0.74

Cell Population	z Score*	Performance Status for this Sample	Performance Status Classification Over 12 Sample Period		
			Satisfactory	Action	Critical
CD34 Absolute Values	-1.74	Satisfactory	11	1	0

Percentage Values Results and Performance

Cell Population	Your Results %	Robust Mean %	Robust SD %
CD34 Percentage Values	0.17	0.27	0.03

Cell Population	z Score*	Performance Status for this Sample	Performance Status Classification Over 12 Sample Period		
			Satisfactory	Action	Critical
CD34 Percentage Values	-3.33	Action	10	2	0

*z Score Limits Definitions

Please note the scale below is applicable to the tables above and to the z score histograms and Shewhart control charts that follow. It is not applicable to the Cusum control charts.
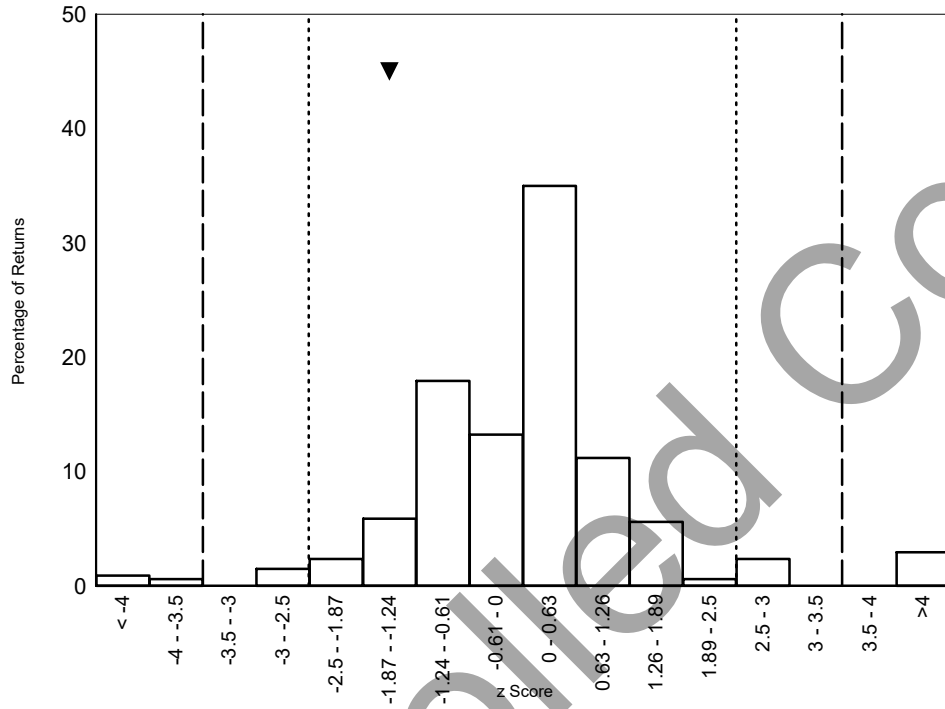
Absolute

Critical	Action		Satisfactory			Action	Critical
-n	-3.50	-2.50	-1	0	1	2.50	3.50	n

Percentage

Critical	Action		Satisfactory			Action	Critical
-n	-3.50	-2.50	-1	0	1	2.50	3.50	n

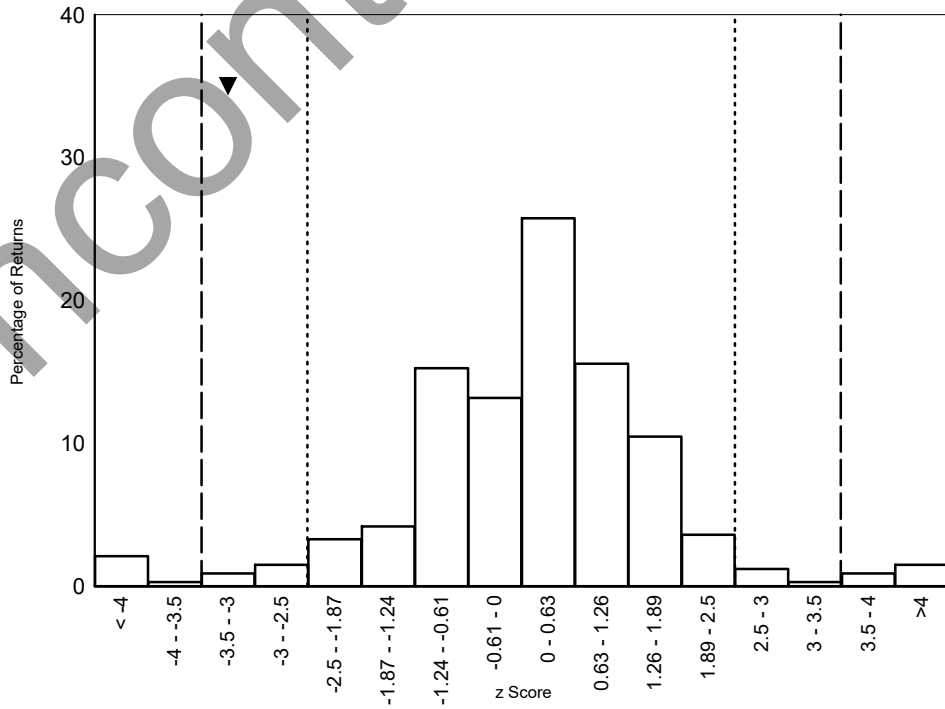## CD34+ Stem Cell Enumeration Programme

Histograms of Participant z Scores

Absolute Values (cells/µL)
Please note ▼ denotes your result

Percentage Values (%)
Please note ▼ denotes your result

Report Issue Date: 19 Jul 2023 ; **Distribution:** CD34 232402; **Version:** 1.0.0 **Report Type:** Final
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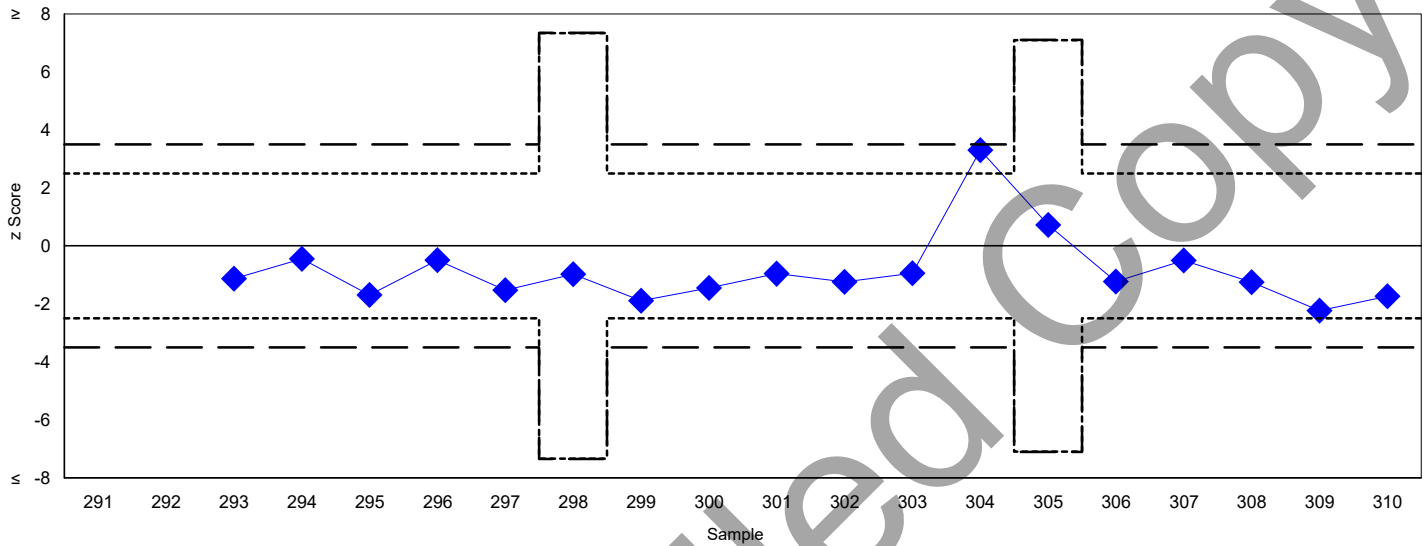
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CD34+ Stem Cell Enumeration Programme

Shewhart Control Charts

(Please note each data point represents a single sample)

Absolute Values (cells/µL)

Percentage Values (%)

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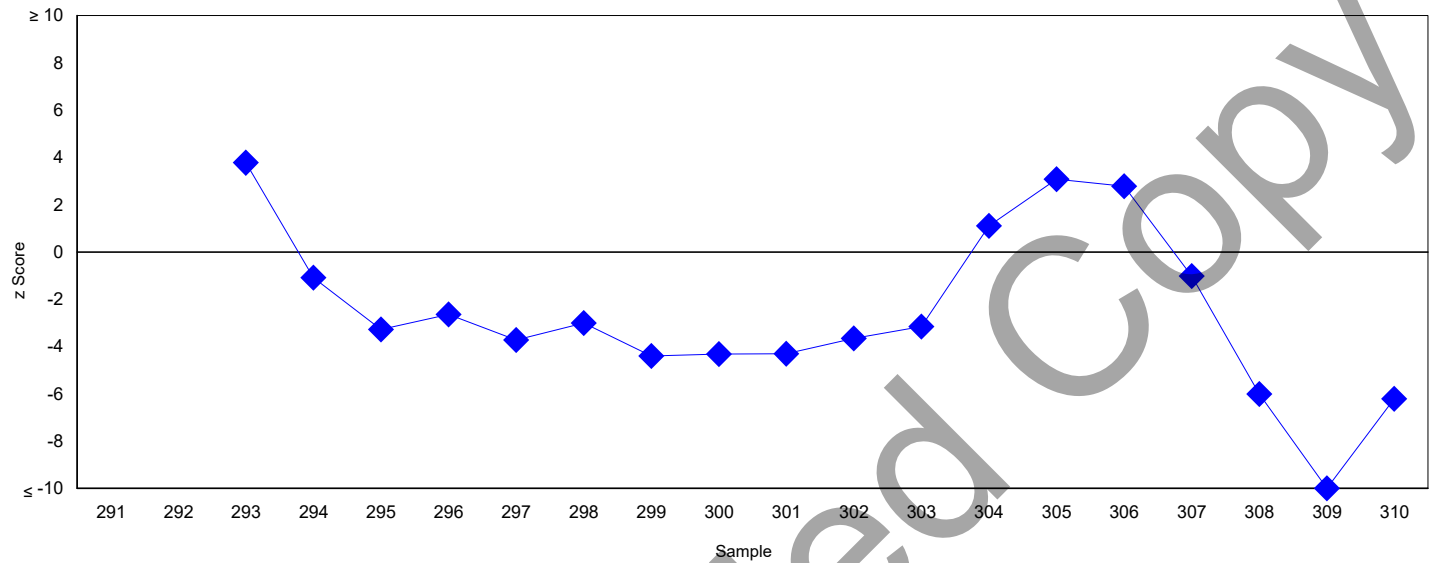
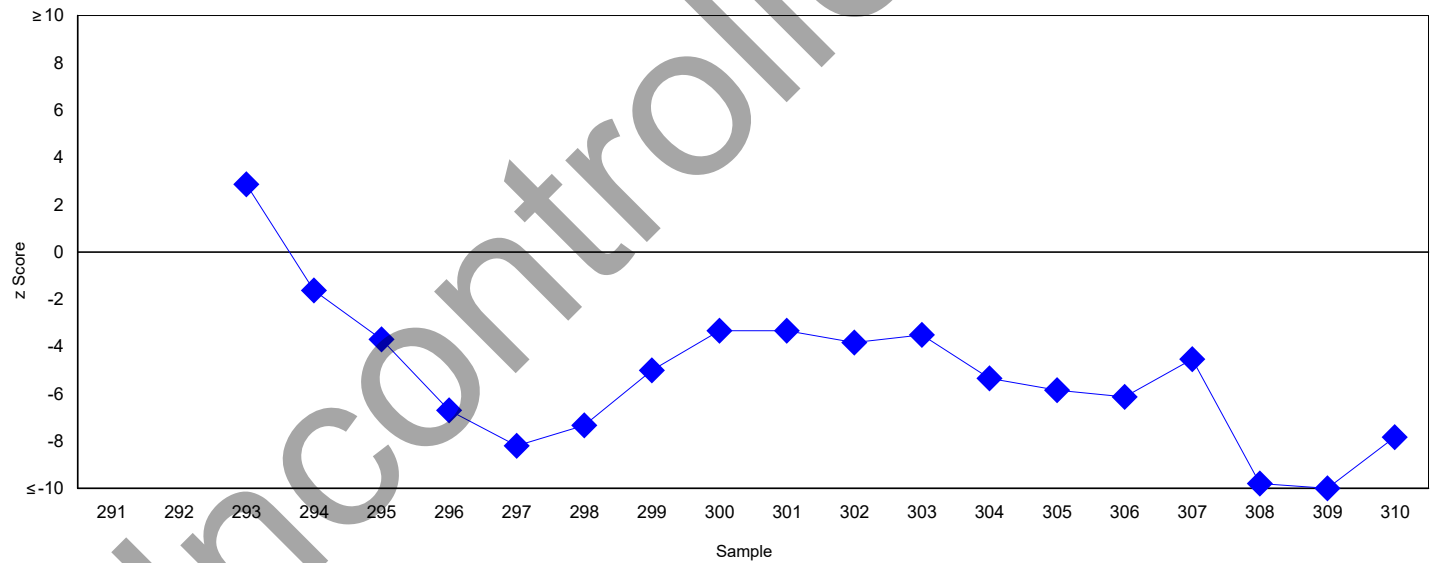## CD34+ Stem Cell Enumeration Programme

Cusum Control Charts

(Please note each data point represents the sum of the z scores of the current sample and the two previous samples)

Absolute Values (cells/µL)

Percentage Values (%)

CD34+ Stem Cell Enumeration Programme

Platform Specific Statistics
(Please note only groups of >20 returns are displayed)

Method	Absolute Count Values (cells/µL)			Percentage Values		
	Returns	Robust Mean	Robust SD	Returns	Robust Mean	Robust SD
FLOW COUNT	91	5.95	0.84	89	0.28	0.04
HAEMATOLOGY ANALYSER WBC	38	5.94	0.70	36	0.29	0.03
TRUCOUNT	174	5.87	0.60	173	0.27	0.03

Lysing Method Specific Statistics
(Please note only groups of >20 returns are displayed)

Method	Absolute Count Values (cells/µL)			Percentage Values		
	Returns	Robust Mean	Robust SD	Returns	Robust Mean	Robust SD
Ammonium Chloride (NH4CL)	154	5.89	0.68	151	0.27	0.03
Facslyse	28	5.82	0.71	27	0.28	0.03
Pharmlyse	47	5.90	0.76	46	0.27	0.04
Stem Kit Lyse	78	5.87	0.95	77	0.27	0.04

Antibody Fluorochrome Specific Statistics
(Please note only groups of >20 returns are displayed)

Method	Absolute Count Values (cells/µL)			Percentage Values		
	Returns	Robust Mean	Robust SD	Returns	Robust Mean	Robust SD
PE	328	5.88	0.75	322	0.27	0.03

Flow Cytometer Specific Statistics
(Please note only groups of >20 returns are displayed)

Method	Absolute Count Values (cells/µL)			Percentage Values		
	Returns	Robust Mean	Robust SD	Returns	Robust Mean	Robust SD
DxFLEX	27	6.22	0.75	27	0.29	0.03
FACSCanto II	91	5.75	0.73	91	0.27	0.03
FACSLyric	87	5.96	0.48	85	0.27	0.03
Navios	74	5.88	0.84	72	0.28	0.03

Gating Strategy Specific Statistics
(Please note only groups of >20 returns are displayed)

Method	Absolute Count Values (cells/µL)			Percentage Values		
	Returns	Robust Mean	Robust SD	Returns	Robust Mean	Robust SD
BD STEM CELL ENUMERATION KIT	96	5.84	0.55	96	0.27	0.02
ISHAGE	185	5.85	0.75	180	0.28	0.03
STEM KIT	50	6.11	1.10	50	0.27	0.04

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UK NEQAS
Leucocyte Immunophenotyping

CD34+ Stem Cell Enumeration Programme

Distribution - 232402	Sample - 311	Participant ID -
Date Issued - 27 June 2023	Closing Date - 17 July 2023	Machine Used - FACSCanto II

Trial Comments

This exercise was issued to 368 participants. Results were returned by 341 participants. This is the final version of the report.

Sample Comments

The sample was manufactured by UK NEQAS LI using stabilised CD34+ samples and stabilised leucodepleted blood

Absolute Values Results and Performance

Please note: Performance monitoring for this programme is on absolute values only. Percentage results are shown for information purposes only.

Cell Population	Your Results (cells/µL)	Robust Mean (cells/µL)	Robust SD (cells/µL)
CD34 Absolute Values	9.67	13.17	1.79

Cell Population	z Score*	Performance Status for this Sample	Performance Status Classification Over 12 Sample Period		
			Satisfactory	Action	Critical
CD34 Absolute Values	-1.96	Satisfactory	11	1	0

Percentage Values Results and Performance

Cell Population	Your Results %	Robust Mean %	Robust SD %
CD34 Percentage Values	0.15	0.23	0.03

| Cell Population	z Score*	Performance Status for this Sample	Performance Status Classification Over 12 Sample Period		
			Satisfactory	Action	Critical
CD34 Percentage Values	-2.67	Action	9	3	0

*z Score Limits Definitions

Please note the scale below is applicable to the tables above and to the z score histograms and Shewhart control charts that follow. It is not applicable to the Cusum control charts.
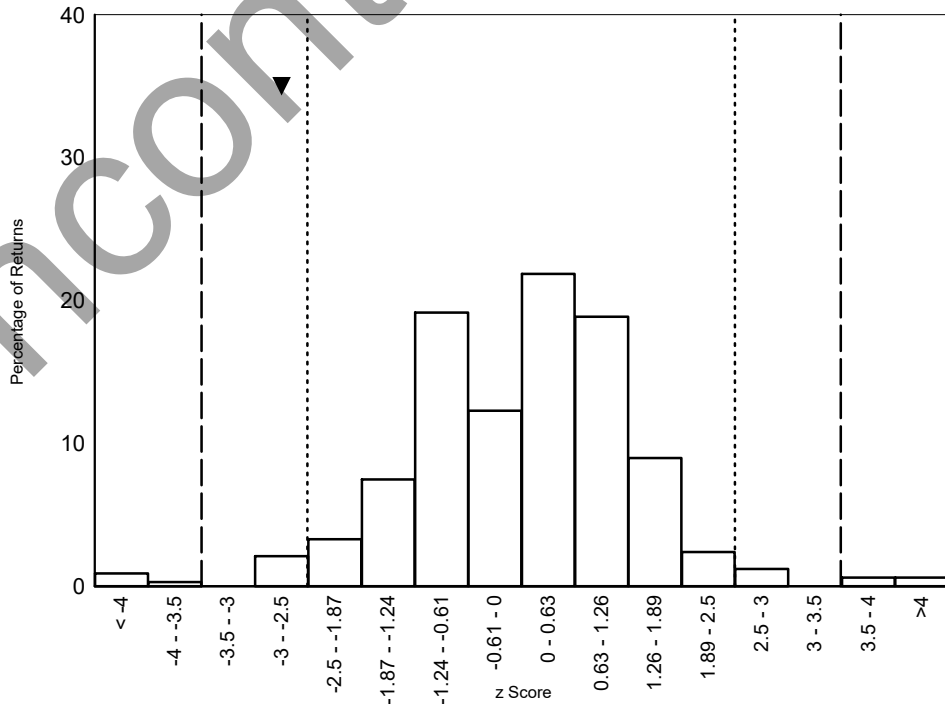
Absolute

	Critical	Action		Satisfactory			Action	Critical	
-n	-3.50	-2.50	-1	0	1	2.50	3.50	n

Percentage

	Critical	Action		Satisfactory			Action	Critical	
-n	-3.50	-2.50	-1	0	1	2.50	3.50	n

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CD34+ Stem Cell Enumeration Programme

Histograms of Participant z Scores

Absolute Values (cells/µL)
Please note ▼ denotes your result
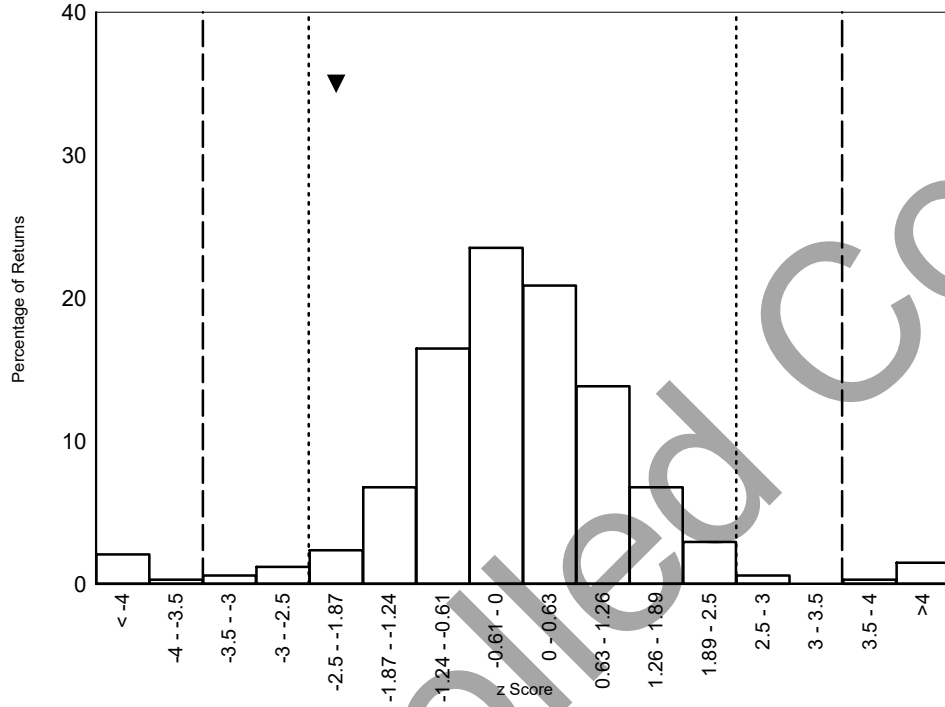
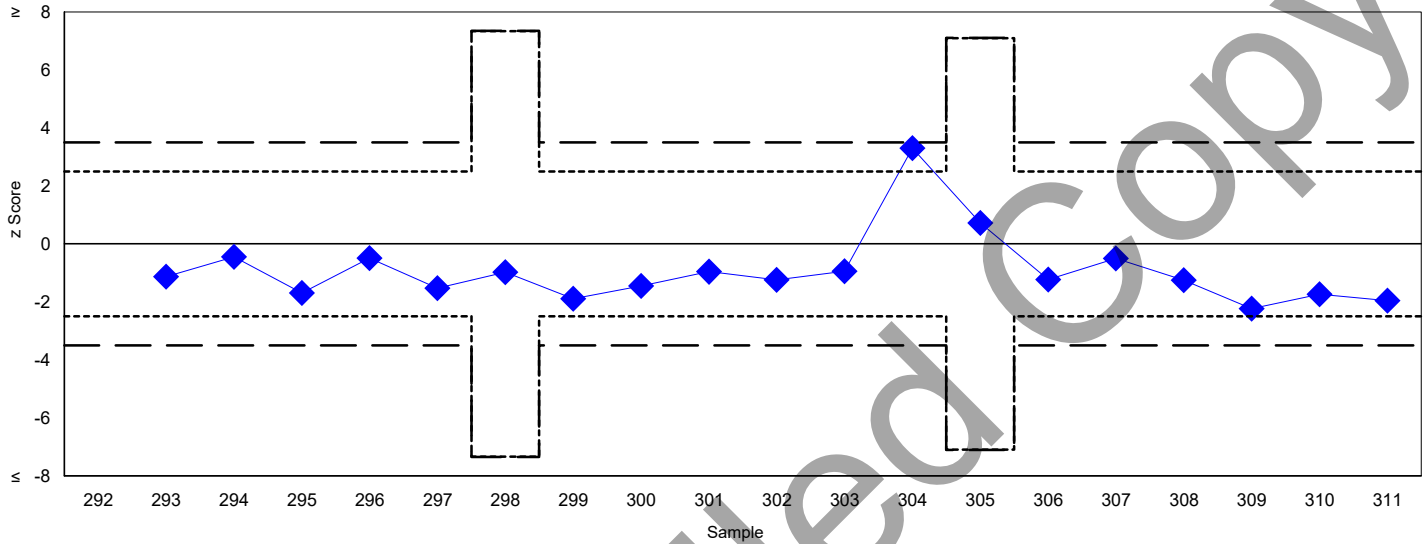Percentage Values (%)
Please note ▼ denotes your result
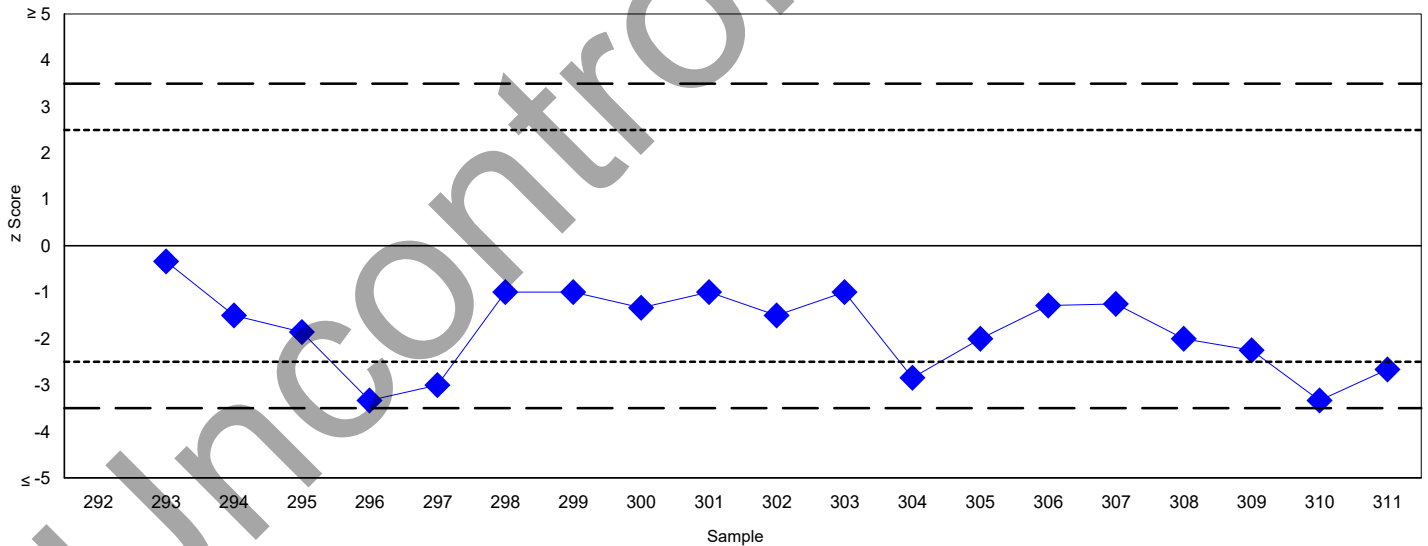
CD34+ Stem Cell Enumeration Programme

Shewhart Control Charts
(Please note each data point represents a single sample)

Absolute Values (cells/µL)
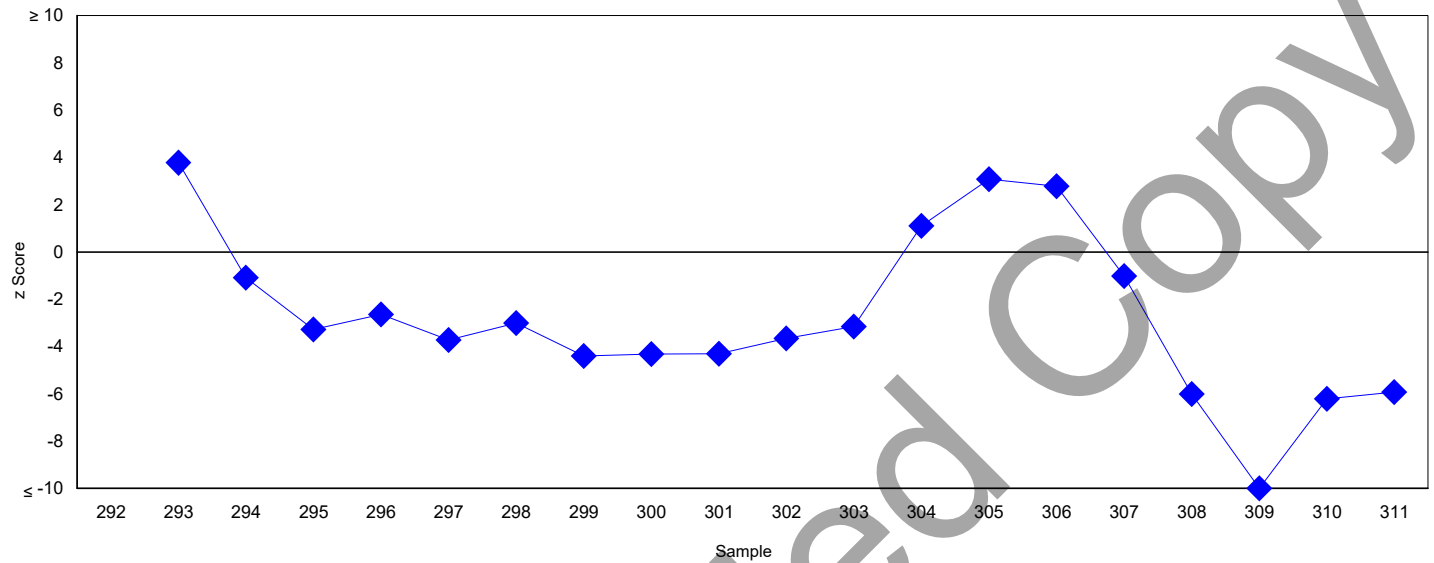

Percentage Values (%)
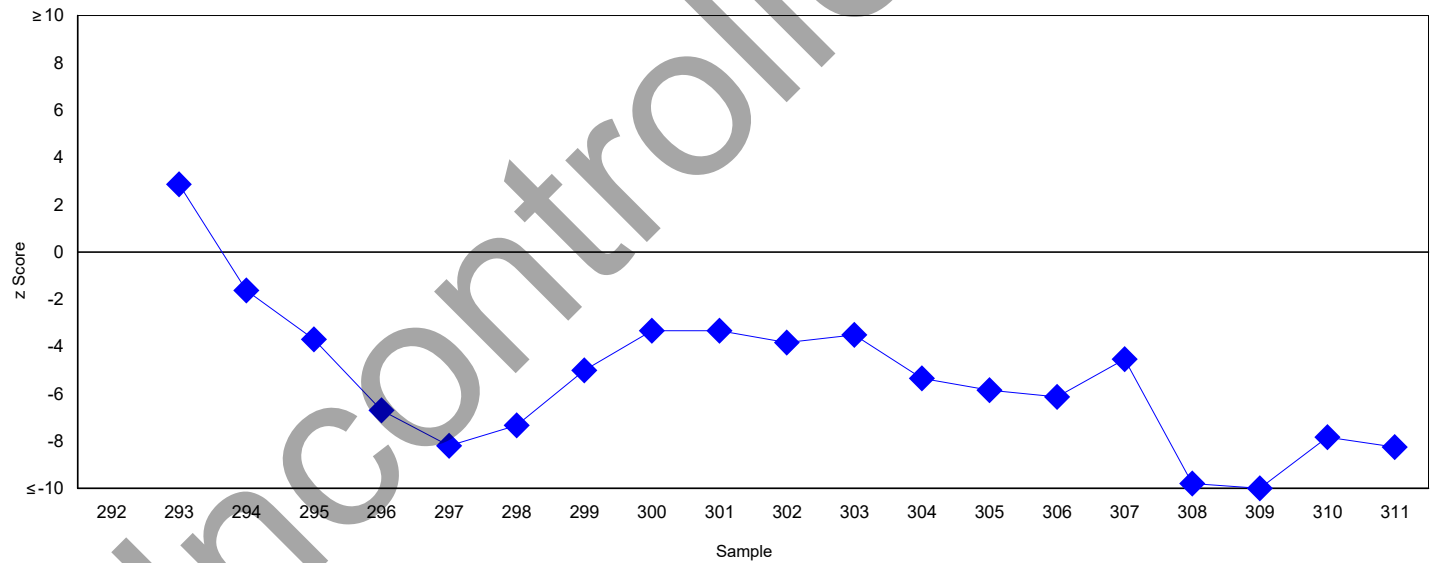
CD34+ Stem Cell Enumeration Programme

Cusum Control Charts
(Please note each data point represents the sum of the z scores of the current sample and the two previous samples)

Absolute Values (cells/µL)

Percentage Values (%)

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CD34+ Stem Cell Enumeration Programme

Platform Specific Statistics
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FLOW COUNT	91	12.93	1.57	89	0.23	0.03
HAEMATOLOGY ANALYSER WBC	38	12.98	2.00	36	0.23	0.03
TRUCOUNT	174	13.39	1.85	173	0.23	0.03

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Method	Absolute Count Values (cells/µL)			Percentage Values		
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Stem Kit Lyse	78	12.76	1.56	77	0.23	0.03

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Method	Absolute Count Values (cells/µL)			Percentage Values		
	Returns	Robust Mean	Robust SD	Returns	Robust Mean	Robust SD
PE	326	13.15	1.87	320	0.23	0.03

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DxFLEX	27	12.95	1.84	27	0.23	0.03
FACSCanto II	91	12.72	1.84	91	0.22	0.03
FACSLyric	87	13.89	1.56	85	0.24	0.03
Navios	74	13.00	1.62	72	0.23	0.03

Gating Strategy Specific Statistics
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Method	Absolute Count Values (cells/µL)			Percentage Values		
	Returns	Robust Mean	Robust SD	Returns	Robust Mean	Robust SD
BD STEM CELL ENUMERATION KIT	96	13.48	1.92	96	0.23	0.03
ISHAGE	185	13.03	2.00	180	0.23	0.03
STEM KIT	50	12.90	1.54	50	0.23	0.04

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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/