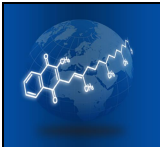


Batch 73 Report - Final

Analysis period: July 2018
Report distribution date: 1st September 2018

KEQAS
Nutristasis Unit
Viapath
4th Floor, North Wing
St. Thomas' Hospital
London SE1 7EH
Email: david.card@viapath.co.uk
Telephone: +44 (0) 20 7188 6815
FAX: +44 (0) 20 7188 2726
www.keqas.com



Batch 73 - Final

Vitamin K ₁ (ug/L)						
	Serum A	Serum B	EtOH std			
ALTM	0.33	0.86	1.22			
Standard uncertainty	0.02	0.04	0.12			

Group	Serum A	Serum B	EtOH std	Group	Z scores		
	K ₁ (ug/L)	K ₁ (ug/L)	K ₁ (ug/L)		Serum A	Serum B	EtOH std
9	0.310	0.790	1.150	9	0.2	0.3	0.2
11	0.310	1.250	2.320	11	0.2	1.5	3.0
14	0.203	0.727	BLD	14	1.2	0.5	
16	0.239	0.736	1.046	16	0.9	0.5	0.5
20	0.480	0.820	NA	20	1.5	0.1	
21	0.400	0.910	NA	21	0.7	0.2	
26	0.260	0.740	NA	26	0.7	0.5	
37	0.320	0.800	0.680	37	0.1	0.2	1.4
38	0.291	0.794	NA	38	0.4	0.2	
41	0.370	0.830	0.880	41	0.4	0.1	0.9
42	0.214	0.625	1.140	42	1.1	0.9	0.2
43	0.542	1.256	NA	43	2.1	1.5	
45	0.370	0.660	1.120	45	0.4	0.8	0.3
46	0.160	0.730	NA	46	1.7	0.5	
47	0.250	0.720	0.900	47	0.8	0.5	0.9
48	0.620	1.060	NA	48	2.9	0.8	
49	0.629	1.140	NA	49	3.0	1.1	
51	0.370	0.990	1.400	51	0.4	0.5	0.5
52	0.350	0.840	1.050	52	0.2	0.1	0.4
53	0.254	0.728	1.390	53	0.7	0.5	0.5
55	0.290	1.380	0.750	55	0.4	2.0	1.3
56	0.450	0.990	NA	56	1.2	0.5	
57	0.323	0.607	NA	57	0.1	1.0	
59	0.310	0.700	1.070	59	0.2	0.6	0.4
61	0.260	0.880	NA	61	0.7	0.1	
63	0.380	0.960	1.600	63	0.5	0.4	1.0
65	0.780	1.920	NA	65	4.5	4.1	
66	0.220	0.700	0.820	66	1.1	0.6	1.1
67	0.200	0.400	0.790	67	1.3	1.8	1.2
69	2.470	1.200	5.740	69	21.4	1.3	12.2
71	0.310	0.970	1.140	71	0.2	0.4	0.2
73	0.391	0.823	1.820	73	0.6	0.1	1.6
74	0.350	1.090	NA	74	0.2	0.9	
75	0.227	0.595	0.971	75	1.0	1.0	0.7
76	0.270	0.690	1.130	76	0.6	0.6	0.2
77	0.230	0.900	2.390	77	1.0	0.2	3.2
ALTM	0.33	0.86	1.217				
Median	0.31	0.82	1.13				
SD	0.11	0.22	0.47				
CV (%)	34.4	25.0	38.5				
In-house calibrator mean	0.30	0.80	1.10				
Commercial calibrator mean	0.45	1.07	*n=2				
Fluorescence mean	0.36	0.92	1.14				
LC-MS/MS mean	0.29	0.79	1.28				

Abbreviations and definitions

NA: Not analysed
 ALTM: All Laboratory Trimmed Mean
 BLD: Below Limit of Detection
 * Insufficient data

Outlier

Traffic Light Z Scores

Z < 2.....Satisfactory-**GREEN**
 2 < Z < 3.....Questionable-**AMBER**
 Z > 3.....Unsatisfactory-**RED**



Batch 73 - Final

Information for participants

Batch contents and homogeneity testing

Batch 73 consisted of two single donor serum samples and one ethanolic standard. KEQAS samples have been evaluated for stability during transit, see www.keqas.com for more details.

Homogeneity was assessed by duplicate measurement of vitamin K1 concentrations in six randomly selected samples in their final manufactured state. One way ANOVA testing indicated that the samples were homogenous. Screening and homogeneity testing of KEQAS EQA material is subcontracted to The Nutristasis Unit, St. Thomas' Hospital, London.

Calculation of target value and criteria for evaluation of performance

The ALTM value is calculated as the mean value of all results received for that batch not including any obvious gross errors or results identified as outliers using Grubbs test. Results from ethanolic standard samples are not used to assess performance. Uncertainty calculated according to ISO13528 indicated that the target value (ALTM) and performance targets used by KEQAS are reliable.

Performance is assessed using the following criteria; outliers are identified using Grubbs test and Z scores are calculated as set out below using the standard deviation of proficiency testing (SDPT) as the target. The SDPT is derived from a rolling window of three years previous data from serum sample results. Current SDPT (expressed as CV) = 30.5%.

$$Z = \frac{(X_i - X)}{SDPT}$$

Z: Z Score, X: ALTM, Xi: Result

Outwith consensus results are defined by Grubbs test and by the Z scoring system. If a result is defined as an outlier by Grubbs test or if a Z score is greater than three then the performance is defined as outwith consensus.

A group is defined as persistently outwith consensus thus; being classified as an outlier by Grubbs test or attaining a Z score greater than three for two consecutive batches or attaining a Z score greater than two for three consecutive batches.

Organisation, planning and design

The operation and implementation of KEQAS was designed according to planning procedures and is authorised by the KEQAS Steering Committee. Viapath Analytics LLP, operating KEQAS, is a UKAS accredited proficiency testing provider No. 8595.

Report verification and authorisation

Reports prepared by David Card - KEQAS Manger
Verified by Parmilla Dhamrait - KEQAS Quality Manager
Authorised by Parmilla Dhamrait - KEQAS Quality Manager

The KEQAS host organisation is Viapath Analytics LLP,
KEQAS is a UKNEQAS affiliated EQA scheme.



8595

