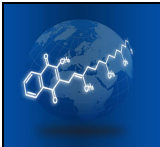


Batch 74 Report - Final

Analysis period: October 2018
Report distribution date: 1st December 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 0084
www.keqas.com



Batch 74 - Final

	Vitamin K ₁ (ug/L)		
	Serum A	Serum B	EtOH std
ALTM	0.97	0.32	3.33
Standard uncertainty	0.05	0.02	0.28

Current Performance Status
 Satisfactory - **GREEN**
 Single/multiple
 outwith consensus - **AMBER**
 Persistently outwith consensus - **RED**

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	0.860	0.320	3.330	9	0.4	0.0	0.0
11	1.000	0.280	3.800	11	0.1	0.4	0.5
14	0.821	0.158	2.535	14	0.5	1.6	0.8
16	0.922	0.270	3.972	16	0.2	0.5	0.6
20	1.003	0.365	NA	20	0.1	0.5	
21	0.890	0.290	NA	21	0.3	0.3	
26	0.830	0.340	NA	26	0.5	0.3	
37	1.040	0.270	NA	37	0.2	0.5	
38	0.667	0.255	NA	38	1.0	0.6	
41	0.890	0.350	2.650	41	0.3	0.4	0.7
42	0.751	0.230	3.490	42	0.7	0.9	0.2
43	1.290	0.624	NA	43	1.1	3.2	
45	0.230	0.090	1.120	45	2.5	2.3	2.2
46	1.000	0.230	NA	46	0.1	0.9	
47	0.680	0.260	2.210	47	1.0	0.6	1.1
48	1.300	0.230	NA	48	1.1	0.9	
49	1.500	0.510	NA	49	1.8	2.0	
51	0.900	0.340	4.200	51	0.2	0.3	0.8
52	1.060	0.420	NA	52	0.3	1.1	
53	0.990	0.250	3.429	53	0.1	0.7	0.1
56	1.520	0.490	NA	56	1.8	1.8	
57	0.645	0.302	NA	57	1.1	0.1	
59	0.540	0.210	2.608	59	1.5	1.1	0.7
61	0.840	0.310	NA	61	0.4	0.1	
62	1.400	0.350	2.250	62	1.4	0.4	1.1
63	0.890	0.480	5.360	63	0.3	1.7	2.0
65	1.360	0.590	NA	65	1.3	2.8	
66	0.860	0.270	4.030	66	0.4	0.5	0.7
67	1.000	0.190	4.050	67	0.1	1.3	0.7
69	0.428	0.704	NA	69	1.8	4.0	
71	0.930	0.360	4.560	71	0.1	0.5	1.2
72	0.850	0.340	2.690	72	0.4	0.3	0.6
73	1.110	0.338	6.540	73	0.5	0.2	3.1
74	1.420	0.190	NA	74	1.5	1.3	
75	0.975	0.272	3.260	75	0.0	0.5	0.1
76	0.820	0.280	3.800	76	0.5	0.4	0.5
ALTM	0.97	0.32	3.33				
Median	0.91	0.30	3.46				
SD	0.26	0.12	0.99				
CV (%)	26.9	36.4	29.7				
In-house calibrator mean	0.90	0.29	3.33				
Commercial calibrator mean	1.39	0.49	n=0				
Fluorescence mean	1.07	0.33	2.88				
LC-MS/MS mean	0.87	0.30	3.84				

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 74 - Final

Information for participants

Batch contents and homogeneity testing

Batch 74 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) = 30.6%.

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

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 Manager
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

