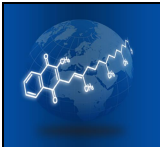


## Batch 71 Report - Final

Analysis period: January 2018  
Report distribution date: 1<sup>st</sup> March 2018

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



Batch 71 - Final

Vitamin K <sub>1</sub> (ug/L)			
	Serum A	Serum B	EtOH std
ALTM	0.89	1.87	1.15
Standard uncertainty	0.01	0.02	0.02

Group	Serum A	Serum B	EtOH std	Group	Z scores		
	K <sub>1</sub> (ug/L)	K <sub>1</sub> (ug/L)	K <sub>1</sub> (ug/L)		Serum A	Serum B	EtOH std
9	0.820	1.820	1.050	9	0.2	0.1	0.3
11	0.930	2.090	1.500	11	0.1	0.4	0.9
16	0.659	1.250	1.008	16	0.8	1.0	0.4
20	0.950	2.050	NA	20	0.2	0.3	
21	1.190	2.500	NA	21	1.0	1.0	
26	0.680	1.490	NA	26	0.7	0.6	
37	0.900	1.600	0.700	37	0.0	0.4	1.2
38	0.791	1.916	NA	38	0.3	0.1	
41	0.880	1.590	0.710	41	0.0	0.4	1.2
42	0.716	1.520	1.140	42	0.6	0.6	0.0
43	1.302	2.877	NA	43	1.4	1.6	
45	1.020	1.710	1.400	45	0.4	0.3	0.6
46	0.780	1.600	NA	46	0.4	0.4	
47	0.650	0.750	1.590	47	0.8	1.8	1.1
48	1.560	2.470	NA	48	2.3	1.0	
49	1.460	2.480	NA	49	1.9	1.0	
51	0.770	1.900	1.300	51	0.4	0.1	0.4
52	0.800	1.900	NA	52	0.3	0.1	
53	0.976	1.766	1.073	53	0.3	0.2	0.2
55	0.790	1.770	1.010	55	0.3	0.2	0.4
56	1.430	2.250	NA	56	1.8	0.6	
57	0.962	2.049	NA	57	0.2	0.3	
59	0.560	12.500	0.810	59	1.1	17.2	0.9
61	0.690	1.450	NA	61	0.7	0.7	
63	0.910	2.490	1.600	63	0.1	1.0	1.2
65	1.040	3.180	NA	65	0.5	2.1	
66	0.680	2.530	1.520	66	0.7	1.1	1.0
67	0.690	1.330	0.900	67	0.7	0.9	0.7
69	0.869	0.850	2.490	69	0.1	1.6	3.5
71	0.580	1.370	1.220	71	1.1	0.8	0.2
72	0.630	1.020	0.680	72	0.9	1.4	1.2
73	1.030	2.460	1.610	73	0.5	1.0	1.2
76	0.770	1.690	1.100	76	0.4	0.3	0.1

ALTM	0.89	1.87	1.15
Median	0.82	1.82	1.12
SD	0.25	0.57	0.32
CV (%)	28.4	30.4	27.5
In-house calibrator mean	0.79	1.67	1.13
Commercial calibrator mean	1.27	2.55	*
Fluorescence mean	0.97	1.92	1.09
LC-MS/MS mean	0.79	1.79	1.22

**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 71 - Final

## Information for participants

### Batch contents and homogeneity testing

Batch 71 consisted of two single donor serum samples and one ethanolic standard. KEQAS samples have been evaluated for stability during transit, see [www.keqas.com](http://www.keqas.com) for more details.

Homogeneity was assessed by duplicate measurement of vitamin K<sub>1</sub> 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 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.

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

Z: Z Score, X: ALTM, X<sub>i</sub>: 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 Parmilla Dhamrait - KEQAS Deputy Manger  
Verified by David Card - KEQAS Manager  
Authorised by David Card - KEQAS Manager

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



8595

