



Microcystins ADDA OH - Assay Calibration Report

Assay Information

Assay Name: Microcystins ADDA OH
 Normal: 0.300 - 5.000
 # of decimals: 3
 Assay Substances:

Assay Mode: 4-Parameter Logistic
 Units: ug/L
 Assay Description: ELISA

Controls:
 LRB (0.000 - 0.300)
 QCS (0.5625 - 0.9375)
 LCRC (0.240 - 0.560)
 Standards:
 Std1, Concentration = 0.000, Minimum number to use: 2
 Std2, Concentration = 0.150, Minimum number to use: 2
 Std3, Concentration = 0.400, Minimum number to use: 2
 Std4, Concentration = 1.000, Minimum number to use: 2
 Std5, Concentration = 2.000, Minimum number to use: 2
 Std6, Concentration = 5.000, Minimum number to use: 2
 Curve valid interval: 7 days 0 hours
 Axis Mode: Y = Abs, X = Log(Conc)

Assay Calibration

Current Calibration Status: "

Name	Absorbance	Concentration	Interpretation	Position
5/4/2016 11:31:30 AM				
Std1	1.233 Abs	< 0.000 ug/L		A01
Std1	1.200 Abs	0.003 ug/L		B01
Std2	0.960 Abs	0.134 ug/L		C01
Std2	0.935 Abs	0.157 ug/L		D01
Std3	0.719 Abs	0.486 ug/L		E01
Std3	0.780 Abs	0.362 ug/L		F01
Std4	0.544 Abs	1.137 ug/L		G01
Std4	0.622 Abs	0.773 ug/L		H01
Std5	0.440 Abs	2.017 ug/L		A02
Std5	0.425 Abs	2.213 ug/L		B02
Std6	0.323 Abs	4.670 ug/L		C02
Std6	0.310 Abs	> 5.000 ug/L		D02

5/4/2016 11:31:30 AM				
LRB (0.000 - 0.300)	1.208 Abs	0.001 ug/L		B03
LRB (0.000 - 0.300)	1.212 Abs	0.001 ug/L		A03
QCS (0.5625 - 0.9375)	0.643 Abs	0.698 ug/L		F02
QCS (0.5625 - 0.9375)	0.658 Abs	0.650 ug/L		E02
LCRC (0.240 - 0.560)	0.803 Abs	0.323 ug/L		H02
LCRC (0.240 - 0.560)	0.769 Abs	0.382 ug/L		G02

Statistic				
Std1 [MEAN]	1.217			
Std1 [SD]	0.023			
Std1 [%CV]	1.92			
Std2 [MEAN]	0.947	0.146		
Std2 [SD]	0.018	0.016		
Std2 [%CV]	1.87	11.18		
Std2 [%DIFF]		-2.67		
Std3 [MEAN]	0.749	0.424		
Std3 [SD]	0.043	0.088		
Std3 [%CV]	5.75	20.68		
Std3 [%DIFF]		6.00		
Std4 [MEAN]	0.583	0.955		
Std4 [SD]	0.055	0.257		
Std4 [%CV]	9.46	26.95		
Std4 [%DIFF]		-4.50		
Std5 [MEAN]	0.433	2.115		

Name	Absorbance	Concentration	Interpretation	Position
Std5 [SD]	0.011	0.139		
Std5 [%CV]	2.45	6.55		
Std5 [%DIFF]		5.75		
Std6 [MEAN]	0.317			
Std6 [SD]	0.009			
Std6 [%CV]	2.90			
Std6 [%DIFF]		-100.00		
LRB (0.000 - 0.300) [MEAN]	1.210	0.001		
LRB (0.000 - 0.300) [SD]	0.003	0.000		
LRB (0.000 - 0.300) [%CV]	0.23	0.00		
QCS (0.5625 - 0.9375) [MEAN]	0.650	0.674		
QCS (0.5625 - 0.9375) [SD]	0.011	0.034		
QCS (0.5625 - 0.9375) [%CV]	1.63	5.04		
LCRC (0.240 - 0.560) [MEAN]	0.786	0.353		
LCRC (0.240 - 0.560) [SD]	0.024	0.042		
LCRC (0.240 - 0.560) [%CV]	3.06	11.84		

Assay Curve

$$y = (A-D)/(1+(x/C)^B) + D$$

A = 0.15286

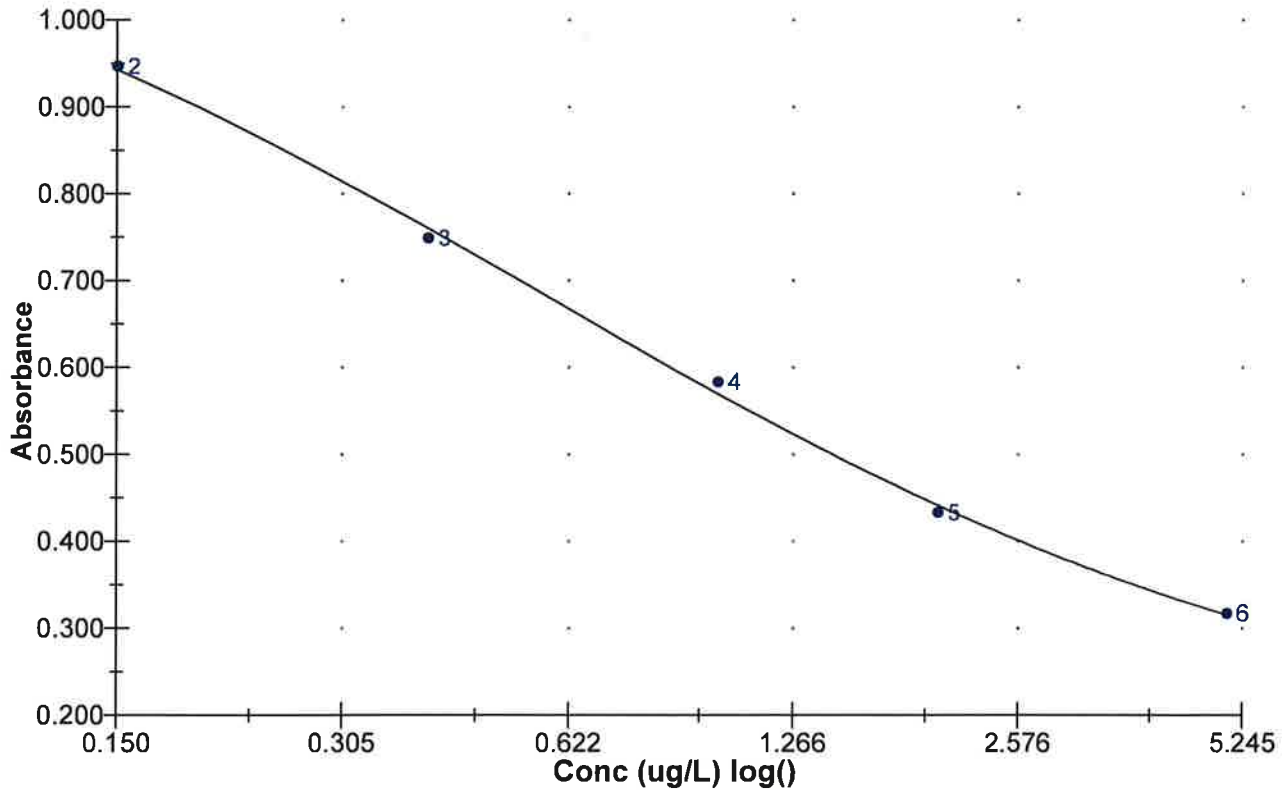
B = -0.78977

C = 0.57142

D = 1.2174

R2 coef = 0.99931

> 0.98



Test Information

Request: 5/4/2016 11:31:30 AM
Date: 5/4/2016

Name/ID	Assay	Absorbance	Concentration	Interpretation	Reference
Std1	Microcystins ADDA OH	1.233 Abs	< 0.000 ug/L		0.000
Std1	Microcystins ADDA OH	1.200 Abs	0.003 ug/L		0.000
Std2	Microcystins ADDA OH	0.960 Abs	0.134 ug/L		0.150
Std2	Microcystins ADDA OH	0.935 Abs	0.157 ug/L		0.150
Std3	Microcystins ADDA OH	0.719 Abs	0.486 ug/L		0.400
Std3	Microcystins ADDA OH	0.780 Abs	0.362 ug/L		0.400
Std4	Microcystins ADDA OH	0.544 Abs	1.137 ug/L		1.000
Std4	Microcystins ADDA OH	0.622 Abs	0.773 ug/L		1.000
Std5	Microcystins ADDA OH	0.440 Abs	2.017 ug/L		2.000
Std5	Microcystins ADDA OH	0.425 Abs	2.213 ug/L		2.000
Std6	Microcystins ADDA OH	0.323 Abs	4.670 ug/L		5.000
Std6	Microcystins ADDA OH	0.310 Abs	> 5.000 ug/L		5.000
QCS (0.5625 - 0.9375)	Microcystins ADDA OH	0.658 Abs	0.650 ug/L		
QCS (0.5625 - 0.9375)	Microcystins ADDA OH	0.643 Abs	0.698 ug/L		
LCRC (0.240 - 0.560)	Microcystins ADDA OH	0.769 Abs	0.382 ug/L		
LCRC (0.240 - 0.560)	Microcystins ADDA OH	0.803 Abs	0.323 ug/L		
LRB (0.000 - 0.300)	Microcystins ADDA OH	1.212 Abs	0.001 ug/L		
LRB (0.000 - 0.300)	Microcystins ADDA OH	1.208 Abs	0.001 ug/L		
MCY MDL 0.4 - 1	Microcystins ADDA OH	0.746 Abs	0.427 ug/L		0.300 - 5
MCY MDL 0.4 - 1	Microcystins ADDA OH	0.764 Abs [0.7550] {1.7 CV}	0.391 ug/L [0.409] {6.2 CV}		0.300 - 5
MCY MDL 0.4 - 2	Microcystins ADDA OH	0.770 Abs	0.380 ug/L		0.300 - 5
MCY MDL 0.4 - 2	Microcystins ADDA OH	0.749 Abs [0.7595] {2.0 CV}	0.421 ug/L [0.400] {7.2 CV}		0.300 - 5
MCY MDL 0.4 - 3	Microcystins ADDA OH	0.734 Abs	0.452 ug/L		0.300 - 5
MCY MDL 0.4 - 3	Microcystins ADDA OH	0.781 Abs [0.7575] {4.4 CV}	0.360 ug/L [0.404] {16.0 CV}		0.300 - 5
MCY MDL 0.4 - 4	Microcystins ADDA OH	0.793 Abs	0.340 ug/L		0.300 - 5
MCY MDL 0.4 - 4	Microcystins ADDA OH	0.766 Abs [0.7795] {2.4 CV}	0.388 ug/L [0.363] {9.3 CV}		0.300 - 5
MCY MDL 0.4 - 5	Microcystins ADDA OH	0.779 Abs	0.364 ug/L		0.300 - 5
MCY MDL 0.4 - 5	Microcystins ADDA OH	0.775 Abs [0.7770] {0.4 CV}	0.371 ug/L [0.368] {1.3 CV}		0.300 - 5
MCY MDL 0.4 - 6	Microcystins ADDA OH	0.809 Abs	0.313 ug/L		0.300 - 5
MCY MDL 0.4 - 6	Microcystins ADDA OH	0.815 Abs [0.8120] {0.5 CV}	0.304 ug/L [0.309] {2.1 CV}		0.300 - 5
MCY MDL 0.4 - 7	Microcystins ADDA OH	0.797 Abs	0.333 ug/L		0.300 - 5
MCY MDL 0.4 - 7	Microcystins ADDA OH	0.787 Abs [0.7920] {0.9 CV}	0.350 ug/L [0.341] {3.5 CV}		0.300 - 5

Microcystins ADDA OH ELISA Lot #16C9430

* LR - Linear Range; [...] - Mean result of duplicate tests

* Generated by Plate Reader version (6.3.1.239//) 5/4/2016 11:43:38 AM



Microcystins Method Detection Limit (MDL) Calculation Report

Enter the MDL standard concentration and the mean recovery of each replicate (in ppb) below. The % theoretical recovery of each replicate, average recovery, standard deviation, and MDL will be calculated and displayed automatically.

Analyst: Diana Hulboy
Date: 4/5/2016

MDL Standard Concentration: 0.4 ppb

Replicate No.	Recovery (ppb)	% Recovery
1	<u>0.409</u>	102%
2	<u>0.400</u>	100%
3	<u>0.404</u>	101%
4	<u>0.363</u>	91%
5	<u>0.368</u>	92%
6	<u>0.309</u>	77%
7	<u>0.341</u>	85%

Average Recovery: 0.371
Standard Deviation: 0.037

MDL: 0.116

Acceptance Criteria:

- calculated MDL value is no more than ten times lower than the concentration of the MDL standard
- calculated MDL value does not exceed the concentration of the MDL standard
- if following the reporting limit guidelines as described in *Ohio EPA Total (Extracellular and Intracellular) Microcystins - ADDA by ELISA Analytical Methodology*, the calculated MDL value also must not exceed the reporting limit of 0.3 ppb

Notes/Comments: