

APPLICATION



Determination of Cylindrospermopsin and Anatoxin-a in Drinking Water by UHPLC/MS/MS using a Luna[®] Omega 1.6 μm Polar C18 (EPA Method 545)

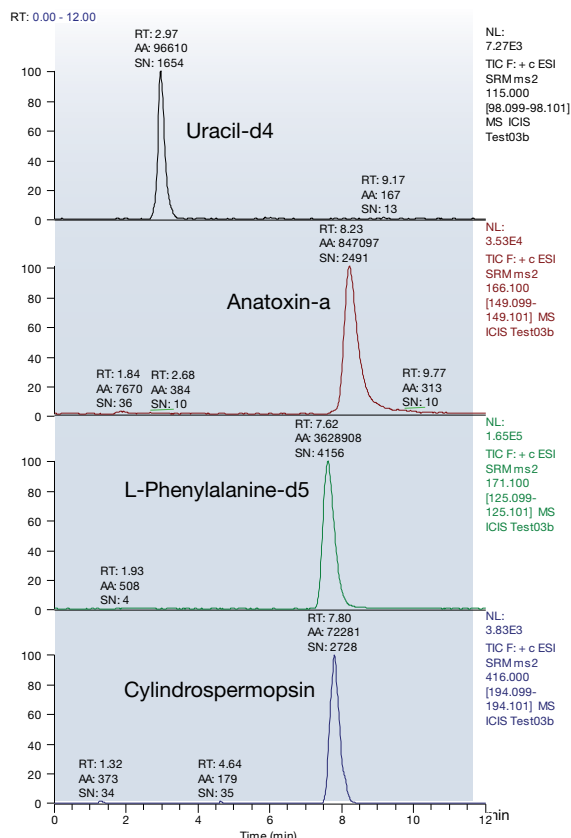
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Overview

Cyanotoxins like Cylindrospermopsin or Anatoxin-a are produced by blue-green algae and can be very harmful to humans and animals especially through consumption of contaminated water. As environmental conditions change and promote harmful algal blooms growth, drinking and surface water testing becomes incredibly important to ensure a community's safety. In this application, the water soluble and highly polar cyanotoxins Cylindrospermopsin and Anatoxin-a were analyzed via UHPLC/MS/MS using a Luna Omega 1.6 μm Polar C18. The 100 % aqueous stability combined with enhanced polar retention provided by the Luna Omega Polar C18 allows for excellent retention of the target toxins as well as the isotopically labeled internal standards

Acknowledgement

We would especially like to thank David Schiessel and Babcock Laboratories for their support and use of their method, system, and standards for this application.



UHPLC/MS/MS Conditions

Column: Luna Omega 1.6 μm Polar C18
Dimensions: 100 x 2.1 mm
Part No.: OOD-4748-AN
Mobile Phase: 0.2 % Acetic Acid in Water
Flow Rate: 0.2 mL/min
Temperature: 40 °C
System: Thermo Scientific[®] Accela UHPLC
Detection: MS/MS (ESI+)
Detector: TSQ Quantum[™] Ultra
Sample: 1. Uracil-d4
 2. Anatoxin-a
 3. L-Phenylalanine-d5
 4. Cylindrospermopsin

Name	Q1	Q3	CE
Uracil-d4	114.8	97.8	15
Anatoxin-a	165.8	148.8	15
L-Phenylalanine-d5	170.8	124.8	28
Cylindrospermopsin	416.2	194	35



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Luna Omega Ordering Information

1.6 µm Minibore Columns (mm)					SecurityGuard™ ULTRA Cartridges†
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
Polar C18	00A-4748-AN	00B-4748-AN	00D-4748-AN	00F-4748-AN	AJO-9505
C18	00A-4742-AN	00B-4742-AN	00D-4742-AN	00F-4742-AN	AJO-9502

† SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000

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If Luna analytical columns do not provide at least an equivalent separation as compared to a competing column of the same particle size, similar phase and dimensions, return the column with comparative data within 45 days for a FULL REFUND.

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