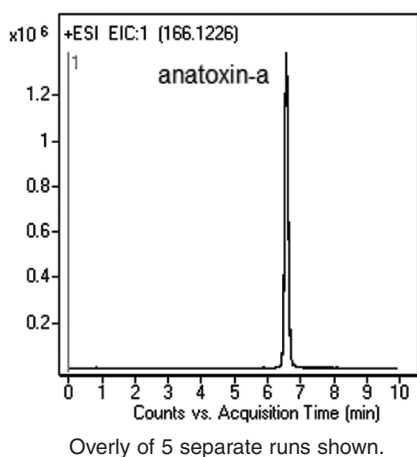
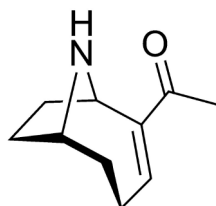


Anatoxin-a (ANTX-A) Potent Neurotoxin



Notes:
Anatoxin-a (ANTX-A) is a cyanobacterial neurotoxin, implicated in many animal and human poisoning incidents. ANTX-A blocks neurotransmission causing death by respiratory arrest. The presence of this toxin in freshwater has to be monitored in order to prevent fatalities.

Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100A
Catalog No.: 70000-15P-2
Dimensions: 2.1 x 150 mm
Solvents: A: 50% MeOH/ 50% DI H₂O/ 0.1% formic acid
 B: Acetonitrile/ 0.1% formic acid
Gradient:

time (min.)	%B	time (min.)	%B
0	70	6	30
5	30	7	70

Post Time: 5 min
Injection Vol.: 1 microL
Flow Rate: 0.4 mL/min
Temperature: 25 °C
Detection: ESI – POS - Agilent 6210 MSD TOF MS
Sample: **Stock standard solution:** (0.5 mg/mL) of Anatoxin-a fumarate was prepared in DI water and stored at -20 °C.
Working solution: Sample for injection was diluted 1:100 using 50%A/50%B solvent mixture. It was stored in the dark at 4 °C.
Peak: Anatoxin-a, 166.1226 m/z (M + H)⁺
t₀: 0.9 min

Discussion

Anatoxin-a is a low molecular weight, secondary amine and can be difficult to retain with reversed-phase columns. This application note illustrates a very simple method for retention of Anatoxin-a which does not require derivatization. The retention achieved is good, and the excellent repeatability is demonstrated by the overlay of five injections shown in the figure. If desired, a lower retention time of Anatoxin-a can be obtained by changing the starting concentration of solvent B in the gradient to 60%, designing a steeper gradient, or using a shorter column (e.g. 2.1 x 50 mm).

For more information visit www.MTC-USA.com

Cat. No.	Description
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70000-15P-2	Diamond Hydride™ HPLC Column, 100A, 4µm, 2.1 x 150 mm
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