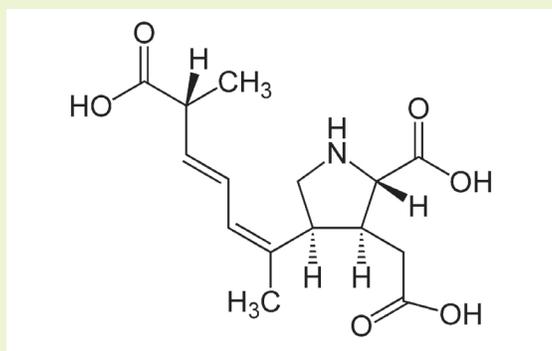
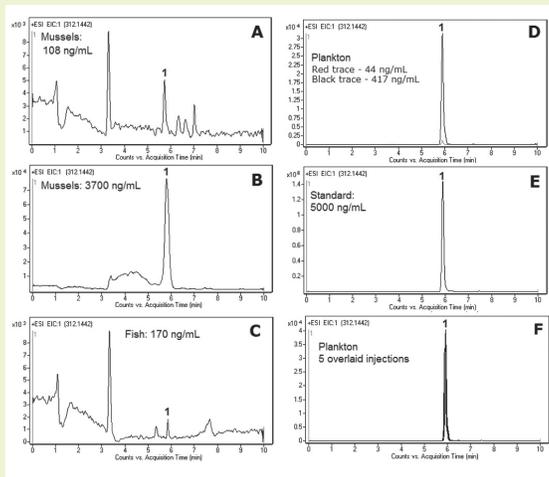


Domoic Acid in Seafood Samples

Domoic acid (DA) from seafood without derivatization



Note: Data was presented at the American Society of Pharmacognosy Annual Meeting and Exhibition, July 30 - August 3, 2011, San Diego, California.

Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100Å

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
	0	95
	7	30
	8	30
	10	95

Post time: 5 min

Injection vol.: 1µL

Flow rate: 0.4 mL/min

Detection: ESI - POS - Agilent 6210 MSD TOF mass spectrometer

Sample: Samples from Dr. R.Kudela, Univ. of Calif., Santa Cruz, Dept. of Marine Sciences. Samples were injected as received.

Peak: Domoic acid 312.1442 m/z (M+H)⁺

t₀: 0.9 min

Discussion

Several seafood and plankton samples were tested for domoic acid (DA) which, as a highly polar compound, is poorly retained on most reversed phase columns. This developed method based on HPLC and MS detection does not require derivatization of DA. The concentration of this potent toxin varied quite substantially between the samples (from 40 ng/mL in plankton to 3700 ng/mL in mussels). Despite different sample matrices, it was possible to detect and analyze domoic acid in a wide range of concentrations.

The results were very repeatable (see 5 overlaid injections in Figure F). The detection limit depends on the instrument used. The method can be used by regulatory agencies responsible for monitoring the occurrence of toxins such as the analysis of domoic acid in seafood samples.