Determination of toxic elements and arsenic species in salted foods and sea-salt by ICP-MS and HPLC-ICP-MS

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Table S1. ICP-MS operating conditions for determination of toxic elements.

ICP-MS condition	
Instrument	300D (Perkin Elmer SCIEX, CT, USA)
Nebulizer	Meinhard nebulizer with cyclonic spray chamber
RF power (kW)	1.35
Argon flows (L/min)	Plasma (16.00), Auxiliary (1-1.3), Nebulizer (1-1.07)
Analysis mode	DRC mode, O_2 0.5 mL/min
Analytical mass (Isotope)	AsO^+ (91), Cd(111), Pb(208)
Optimisation (Isotope)	On masses Be(9), Co(59), In(115), and U(238)

Table S2. HPLC-ICP-MS operating conditions for determination of arsenic species.

Instrument	Flexar (Perkin Elmer SCIEX, CT, USA)			
Column	Hamilton PRP X-100 (4.1 × 250 mm, 10 μm)			
Column oven temp.	Room temp.			
Injection volume	50 μL			
Mobile phase	A : 2M ammonium bicarbonate in 1% MeOH, pH 8.0 B : 20 mM ammonium nitrate, 20 mM ammonium phosphate in 1% MeOH, pH 9.2			
Gradient program	Time (min)	Flow rate (mL/min)	% A	% B
	Equilibrium(2.0)	1.0	100	0
	0.0	1.0	100	0
	2.0	1.0	100	0
	2.5	1.5	0	100
	7.5	1.5	0	100

Table S3. Concentrations (mg/kg) of arsenic species in seawater based on sea salt.

	Korea	Vietnam	China	Australia	New Zealand
Organic Arsenic					
AsC	< DL[A]	< DL	< DL	< DL	< DL
AsB	0.002[ns B] ± 0.0005[C] (0.002 – 0.003)	0.002[ns] ± 0.0001 (0.001 – 0.002)	0.002[ns] ± 0.0001 (0.002 – 0.002)	0.002[ns] ± 0.0002 (0.002 – 0.002)	0.002[ns] ± 0.0001 (0.002 – 0.002)
DMA	< DL	< DL	< DL	< DL	< DL
MMA	< DL	< DL	< DL	< DL	< DL
Inorganic Arsenic					
AsⅢ	< DL	< DL	< DL	< DL	< DL
AsⅤ	< DL	< DL	< DL	< DL	< DL

[A] DL : below detection limit

[B] ns : non significantly differ within a row($p < 0.05$).

[C] Mean value ± standard deviation