

## Domoic Acid 2020 Proficiency Test Summaries

### AFBI EURL 2020

Sample ID	Sample description	Assigned value	Reported value	Units	z-score
EURLMB/20/A/01	Scallop homogenate	9.8	10.2	mg/kg	0.2
EURLMB/20/A/02	Scallop homogenate	16.7	12.6	mg/kg	-1.12

### AFBI Quasimeme Round 2020.1

Sample No	Sample ID	Sample description	Determinand	Assigned value	Reported value	Units	z-score
2020.1	QST278BT	King scallop homogenate	Total Domoic + Epi DA	59.00	69.77	mg/kg	1.4
2020.1	QST279BT	King scallop adductor muscle	Total Domoic + Epi DA	27.30	32.26	mg/kg	1.4
2020.1	QST280BT	Razor clam	Total Domoic + Epi DA	24.70	26.40	mg/kg	0.5

### AFBI Quasimeme Round 2020.2

Sample No	Sample ID	Sample description	Determinand	Assigned value	Reported value	Units	z-score
2020.2	QST287BT	Mussel homogenate	Total Domoic + Epi DA	42.70	48.86	mg/kg	1.1
2020.2	QST288BT	King scallop adductor muscle	Total Domoic + Epi DA	17.50	24.66	mg/kg	3.2
2020.2	QST289BT	Cockle homogenate	Total Domoic + Epi DA	17.90	21.06	mg/kg	1.4

## PSP 2020 Proficiency Test Summaries

### AFBI EURL 2020

Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Recovery corrected result	Units	Z'-Score
EURLMB/20/P/01	HPLC	Mussel homogenate	GTX2&3	526	448	678	ugSTX2HCL equiv/Kg	1.48
EURLMB/20/P/01	HPLC	Mussel homogenate	STX	1085	850	1025	ugSTX2HCL equiv/Kg	-0.35
<b>EURLMB/20/P/01</b>	<b>HPLC</b>	<b>Mussel homogenate</b>	<b>Total STX</b>	<b>1659</b>	<b>1704</b>	<b>1704</b>	<b>ugSTX2HCL equiv/Kg</b>	<b>0.18</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value		Units	Z-Score
EURLMB/20/P/02	HPLC	Mussel homogenate	dcGTX2&3	64.79	0	0	ugSTX2HCL equiv/Kg	
EURLMB/20/P/02	HPLC	Mussel homogenate	C1&C2	252	248	375	ugSTX2HCL equiv/Kg	2.03
EURLMB/20/P/02	HPLC	Mussel homogenate	dcSTX	145.0	96.8	167.0	ugSTX2HCL equiv/Kg	0.65
EURLMB/20/P/02	HPLC	Mussel homogenate	GTX5 (B1)	203	169	201	ugSTX2HCL equiv/Kg	-0.06
EURLMB/20/P/02	HPLC	Mussel homogenate	dcNeo	63.19	32.75	33	ugSTX2HCL equiv/Kg	-1.46
EURLMB/20/P/02	HPLC	Mussel homogenate	C3&C4	72.5	55.12	55	ugSTX2HCL equiv/Kg	-0.94
EURLMB/20/P/02	HPLC	Mussel homogenate	GTX6 (B2)	314	494	494	ugSTX2HCL equiv/Kg	2.43
<b>EURLMB/20/P/02</b>	<b>HPLC</b>	<b>Mussel homogenate</b>	<b>Total STX</b>	<b>1132</b>	<b>1325</b>	<b>1325</b>	<b>ugSTX2HCL equiv/Kg</b>	<b>1.02</b>

**z' scores: Recovery corrected evaluations are available only. (Statutory monitoring samples are not reported as recovery corrected).**

### AFBI Quasimeme Round 2020.1

Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST284BT	HPLC	Mussel	dcSTX	0.551	0.472	µmol/kg	-0.60
QST284BT	HPLC	Mussel	GTX-2,3	5.160	4.415	µmol/kg	-1.00
QST284BT	HPLC	Mussel	STX	1.290	0.997	µmol/kg	-1.30
<b>QST284BT</b>	<b>HPLC</b>	<b>Mussel</b>	<b>Total toxicity</b>	<b>1830</b>	<b>1533</b>	<b>µgSTXdiHCleq./kg</b>	<b>-1.20</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST285BT	HPLC	Mussel	GTX-2,3	6.330	5.788	µmol/kg	-0.6
QST285BT	HPLC	Mussel	STX	2.030	1.578	µmol/kg	-1.4
<b>QST285BT</b>	<b>HPLC</b>	<b>Mussel</b>	<b>Total toxicity</b>	<b>2247</b>	<b>1880</b>	<b>µgSTXdiHCleq./kg</b>	<b>-1.3</b>

Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST286BT	HPLC	Mussel	C1,C2	2.820	2.893	µmol/kg	0.2
QST286BT	HPLC	Mussel	dcSTX	0.342	0.269	µmol/kg	-0.7
QST286BT	HPLC	Mussel	GTX 5	4.080	3.621	µmol/kg	-0.8
QST286BT	HPLC	Mussel	GTX-2,3	0.894	0.756	µmol/kg	-0.8
QST286BT	HPLC	Mussel	STX	0.378	0.282	µmol/kg	-1.0
<b>QST286BT</b>	<b>HPLC</b>	<b>Mussel</b>	<b>Total toxicity</b>	<b>705</b>	<b>617</b>	<b>µgSTXdiHCleq./kg</b>	<b>-0.9</b>

### AFBI Quasimeme Round 2020.2

Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST293BT	HPLC	Mussel	GTX-2,3	2.940	2.444	µmol/kg	-1.10
QST293BT	HPLC	Mussel	STX	1.390	1.135	µmol/kg	-1.10
QST293BT	<b>HPLC</b>	<b>Mussel</b>	<b>Total toxicity</b>	<b>1161</b>	<b>968</b>	<b>µgSTXdiHCleq./kg</b>	<b>-1.30</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST294BT	HPLC	Mussel	dcSTX	1.640	1.342	µmol/kg	-1.1
QST294BT	HPLC	Mussel	STX	0.088	0.064	µmol/kg	-0.4
QST294BT	<b>HPLC</b>	<b>Mussel</b>	<b>Total toxicity</b>	<b>645</b>	<b>524</b>	<b>µgSTXdiHCleq./kg</b>	<b>-1.3</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST295BT	HPLC	Mussel	C1,C2	6.540	6.026	µmol/kg	-0.5
QST295BT	HPLC	Mussel	dcGTX-2,3	0.578	0.456	µmol/kg	-0.6
QST295BT	HPLC	Mussel	dcSTX	0.489	0.424	µmol/kg	-0.6
QST295BT	HPLC	Mussel	GTX 5	7.750	7.057	µmol/kg	-0.6
QST295BT	HPLC	Mussel	GTX-2,3	1.990	1.574	µmol/kg	-1.3
QST295BT	HPLC	Mussel	STX	0.673	0.540	µmol/kg	-1.0
QST295BT	<b>HPLC</b>	<b>Mussel</b>	<b>Total toxicity</b>	<b>1521</b>	<b>1265</b>	<b>µgSTXdiHCleq./kg</b>	<b>-1.3</b>

## Lipophilic 2020 Proficiency Test Summaries

### AFBI EURL 2020

Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
EURLMB/20/L/01	LC-MS/MS	Mussel (homogenate)	Free OA	30	26.5	µg/kg	-0.5
EURLMB/20/L/01	LC-MS/MS	Mussel	Free DTX-1	121	121.3	µg/kg	0.0
EURLMB/20/L/01	LC-MS/MS	Mussel	Total OA	59	62.9	µg/kg	0.3
EURLMB/20/L/01	LC-MS/MS	Mussel	Total DTX-1	480	471.0	µg/kg	-0.1
<b>EURLMB/20/L/01</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>497</b>	<b>533.9</b>	<b>µg OA eq/kg</b>	<b>0.4</b>
EURLMB/20/L/01	LC-MS/MS	Mussel	AZA1	131	132.1	µg/kg	0.1
EURLMB/20/L/01	LC-MS/MS	Mussel	AZA2	37	34.7	µg/kg	-0.3
EURLMB/20/L/01	LC-MS/MS	Mussel	AZA3	26.78	25.5	µg/kg	-0.2
<b>EURLMB/20/L/01</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total AZA group</b>	<b>228</b>	<b>230.3</b>	<b>µg AZA eq./kg</b>	<b>0.1</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
EURLMB/20/L/02	LC-MS/MS	Mussel (homogenate)	Free OA	24	20.9	µg/kg	-0.6
EURLMB/20/L/02	LC-MS/MS	Mussel	Free DTX-2	22	18.4	µg/kg	-0.6
EURLMB/20/L/02	LC-MS/MS	Mussel	Total OA	187	198.5	µg/kg	0.3
EURLMB/20/L/02	LC-MS/MS	Mussel	Total DTX-2	40	35.2	µg/kg	-0.5
<b>EURLMB/20/L/02</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>210.7</b>	<b>219.6</b>	<b>µg OA eq/kg</b>	<b>0.2</b>
EURLMB/20/L/02	LC-MS/MS	Mussel	Homo-YTX	0.26	0.24	mg/kg	-0.5
EURLMB/20/L/02	LC-MS/MS	Mussel	45-OH-Homo-YTX	0.15	0.11	mg/kg	0.2
<b>EURLMB/20/L/02</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total YTX group</b>	<b>0.35</b>	<b>0.38</b>	<b>mg YTX eq./kg</b>	<b>0.3</b>

**AFBI Quasimeme Round 2020.1**

Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST281BT	LC-MS/MS	Mussel (homogenate)	AZA-1	1327	1386	µg/kg	0.3
QST281BT	LC-MS/MS	Mussel	AZA-2	341	324	µg/kg	-0.4
QST281BT	LC-MS/MS	Mussel	AZA-3	306	324	µg/kg	0.5
<b>QST281BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total AZA group</b>	<b>2348</b>	<b>2423</b>	<b>µg AZA eq./kg</b>	<b>0.2</b>
QST281BT	LC-MS/MS	Mussel	Free DTX2	261	250	µg/kg	-0.3
QST281BT	LC-MS/MS	Mussel	Free OA	247	230	µg/kg	-0.5
<b>QST281BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Free OA group</b>	<b>424</b>	<b>380</b>	<b>µg OA eq./kg</b>	<b>-0.8</b>
QST281BT	LC-MS/MS	Mussel	Total DTX2	340	350	µg/kg	0.2
QST281BT	LC-MS/MS	Mussel	Total OA	439	497	µg/kg	1
<b>QST281BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>657</b>	<b>707</b>	<b>µg OA eq./kg</b>	<b>0.6</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST282BT	LC-MS/MS	Mussel (extract)	AZA-1	91.4	91.7	µg/kg	0
QST282BT	LC-MS/MS	Mussel	AZA-2	19.5	18.8	µg/kg	-0.3
QST282BT	LC-MS/MS	Mussel	AZA-3	38.6	37.4	µg/kg	-0.2
<b>QST282BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total AZA group</b>	<b>183</b>	<b>178</b>	<b>µg AZA eq./kg</b>	<b>-0.2</b>
QST282BT	LC-MS/MS	Mussel	Free DTX2	3.88	2.4	µg/kg	-2.1
QST282BT	LC-MS/MS	Mussel	Free OA	39	36.8	µg/kg	-0.4
<b>QST282BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Free OA group</b>	<b>42.1</b>	<b>38.3</b>	<b>µg OA eq./kg</b>	<b>-0.6</b>
QST282BT	LC-MS/MS	Mussel	Total DTX2	3.82	3.3	µg/kg	-0.9
QST282BT	LC-MS/MS	Mussel	Total OA	44	44	µg/kg	0
<b>QST282BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>46.7</b>	<b>46</b>	<b>µg OA eq./kg</b>	<b>-0.1</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST283BT	LC-MS/MS	Mussel (homogenate)	Free DTX1	163	162	µg/kg	-0.1
QST283BT	LC-MS/MS	Mussel	Free OA	26.1	15.9	µg/kg	-2.6
<b>QST283BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Free OA group</b>	<b>192</b>	<b>178</b>	<b>µg OA eq./kg</b>	<b>-0.5</b>
QST283BT	LC-MS/MS	Mussel	Total DTX1	204	245	µg/kg	1.5
QST283BT	LC-MS/MS	Mussel	Total OA	41.6	36	µg/kg	-0.9
<b>QST283BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>239</b>	<b>281</b>	<b>µg OA eq./kg</b>	<b>1.2</b>

QST283BT	LC-MS/MS	Mussel	YTX	0.241	0.327	mg/kg	2.1
QST283BT	LC-MS/MS	Mussel	homo-YTX	0.952	1.003	mg/kg	0.4
QST283BT	LC-MS/MS	Mussel	45-OH-YTX	0.16	0.224	mg/kg	1.7
QST283BT	LC-MS/MS	Mussel	45-OH-homo-YTX	0.356	0.408	mg/kg	0.7
<b>QST283BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total YTX group</b>	<b>1.62</b>	<b>1.758</b>	<b>mg YTX eq./kg</b>	<b>0.6</b>

### AFBI Quasimeme Round 2020.2

Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST290BT	LC-MS/MS	Mussel (extract)	AZA-1	13.6	13.8	µg/kg	0.1
QST290BT	LC-MS/MS	Mussel	AZA-2	3.92	4.3	µg/kg	0.7
QST290BT	LC-MS/MS	Mussel	AZA-3	3.95	3.6	µg/kg	-0.6
<b>QST290BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total AZA group</b>	<b>25.6</b>	<b>26.5</b>	<b>µg OA eq./kg</b>	<b>0.3</b>
QST290BT	LC-MS/MS	Mussel	Free-DTX2	68.3	63.9	µg/kg	-0.5
QST290BT	LC-MS/MS	Mussel	free-Okadaic-Acid	12	12.8	µg/kg	0.5
<b>QST290BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Free OA group</b>	<b>54</b>	<b>51.2</b>	<b>µg OA eq./kg</b>	<b>-0.4</b>
QST290BT	LC-MS/MS	Mussel	Total-DTX2	74.5	71.1	µg/kg	-0.3
QST290BT	LC-MS/MS	Mussel	Total-Okadaic-Acid	19.6	20.8	µg/kg	0.5
<b>QST290BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>65.9</b>	<b>63.4</b>	<b>µg OA eq./kg</b>	<b>-0.3</b>
<b>QST290BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA+PTX group</b>	<b>65.8</b>	<b>63.4</b>	<b>µg OA eq./kg</b>	<b>-0.3</b>
QST290BT	LC-MS/MS	Mussel	YTX	0.033	0.046	mg/kg	0.9
QST290BT	LC-MS/MS	Mussel	homo-YTX	0.308	0.333	mg/kg	0.5
QST290BT	LC-MS/MS	Mussel	45-OH-YTX	0.040	0.041	mg/kg	0.0
QST290BT	LC-MS/MS	Mussel	45-OH-homo-YTX	0.129	0.221	mg/kg	2.8
<b>QST290BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total YTX group</b>	<b>0.441</b>	<b>0.531</b>	<b>mg YTX eq./kg</b>	<b>1.3</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST291BT	LC-MS/MS	Mussel (homogenate)	AZA-1	72.7	59.0	µg/kg	-1.4
QST291BT	LC-MS/MS	Mussel	AZA-2	22.7	23.3	µg/kg	0.2
QST291BT	LC-MS/MS	Mussel	AZA-3	25.5	22.6	µg/kg	-0.9
<b>QST291BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total AZA group</b>	<b>141</b>	<b>133</b>	<b>µg AZA eq./kg</b>	<b>-0.5</b>
QST291BT	LC-MS/MS	Mussel	Free DTX2	519	454	µg/kg	-0.9
QST291BT	LC-MS/MS	Mussel	Free OA	87.4	81.9	µg/kg	-0.4

<b>QST291BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Free OA group</b>	<b>411</b>	<b>355</b>	<b>µg OA eq./kg</b>	<b>-1.0</b>
QST291BT	LC-MS/MS	Mussel	Total DTX2	774	687	µg/kg	-0.8
QST291BT	LC-MS/MS	Mussel	Total OA	210	209	µg/kg	0.0
<b>QST291BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>680</b>	<b>621</b>	<b>µg OA eq./kg</b>	<b>-0.6</b>
<b>QST291BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA+PTX group</b>	<b>689</b>	<b>621</b>	<b>µg OA eq./kg</b>	<b>-0.7</b>
Sample ID	Method	Matrix	Determinand	Assigned Value	Reported value	Units	Z-Score
QST292BT	LC-MS/MS	Mussel (homogenate)	Free DTX1	156	136	µg/kg	-1.0
QST292BT	LC-MS/MS	Mussel	Free OA	76.2	73.3	µg/kg	-0.3
<b>QST292BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Free OA group</b>	<b>234</b>	<b>210</b>	<b>µg OA eq./kg</b>	<b>-0.8</b>
QST292BT	LC-MS/MS	Mussel	Total DTX1	215	189	µg/kg	-0.9
QST292BT	LC-MS/MS	Mussel	Total OA	355	373	µg/kg	0.4
<b>QST292BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA group</b>	<b>573</b>	<b>562</b>	<b>µg OA eq./kg</b>	<b>-0.1</b>
<b>QST292BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total OA+PTX group</b>	<b>573</b>	<b>562</b>	<b>µg OA eq./kg</b>	<b>-0.1</b>
QST292BT	LC-MS/MS	Mussel	YTX	0.147	0.172	mg/kg	0.9
QST292BT	LC-MS/MS	Mussel	45-OH-YTX	0.065	0.130	mg/kg	3.3
<b>QST292BT</b>	<b>LC-MS/MS</b>	<b>Mussel</b>	<b>Total YTX group</b>	<b>0.215</b>	<b>0.302</b>	<b>mg YTX eq./kg</b>	<b>2.2</b>

## Tetrodotoxin development exercise

### AFBI Quasimeme Round 2020.2

Sample ID	Sample description	Assigned value	Reported value	Units	z-score
QTT006SS	Solvent standard	37.3	40.5	µg/L	0.66
QTT007BT	Oyster homogenate	-	<10	µg/kg	-
QTT008BT	Oyster homogenate	40.1	46	µg/kg	0.72

**Phytoplankton - IPI exercise was cancelled in 2020 due to COVID. There are no other available PTs.**

(UK-NRL has been employing greater in-house control measures. No performance issues based on UKAS audits completed over the accounting period).