



# QUASIMEME

Quality assurance of information  
for marine environmental monitoring

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## Certificate of Analysis



DSP shellfish toxins

REFERENCE MATERIAL

BT11 sample 3

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## Certificate of Analysis BT11 3

### General Information

In this report an overview is given of analytical data for this sample collected in our proficiency testing program. The consensus values are calculated using a robust statistical model. With this NDA model mean and standard deviation are calculated using all reported data when at least 4 results are left after removal of reported 'lower than' (<) and 0 (= zero) values. No outliers are removed.

This report is divided into two sections: Consensus Values and Indicative Values. The division is made on the reliability of the data. Consensus Values are based on at least 10 results while the relative uncertainty is smaller than 6.25%. Indicative Values are based on a relative uncertainty of maximum 35% with at least 4 and less than 10 results or a relative uncertainty higher than 6.25%.

For each determinand the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation) and the uncertainty in the assigned value. The confidence limits (at 95 % probability) are calculated for these determinands.

The results of each determinand is expressed on a wet weight basis.

### Sample information

QUASIMEME reference materials cover a range of natural Shellfish toxins species from contaminated waters from the North Sea and/or Mediterranean.

This BT11 sample 3 of Mussel tissue (*mytilus Edulis*) from Marine Institute, Ireland is prepared for the QUASIMEME proficiency programs. The results on which the values in this report are based were taken from the periods given in the following table.

Year.Round	Program	Sample Round Id
2014.2	BT11	QST180BT
2014.1	BT11	QST168BT



## Consensus Values BT11

### Method: Toxins(SF) - BT11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
AZA-1	µg/kg	1100	234	21.2	60	1110	161	38	1039	-	1160
AZA-2	µg/kg	281	63.2	22.5	58	284	44.7	10.4	265	-	298
AZA-3	µg/kg	192	43.3	22.5	57	193	29.5	7.2	181	-	204
AZA-total	µg AZA eq./kg	1890	308	16.3	53	1900	208	53	1808	-	1978
Free-DTX1	µg/kg	243	52.2	21.4	59	240	35.3	8.5	230	-	257
Free-DTX2	µg/kg	88.2	19.01	21.6	59	91.3	13.43	3.09	83.3	-	93.2
free-Okadaic-Acid	µg/kg	164	30.9	18.8	60	164	21.5	5.0	156	-	172
Total-free-OA+DTX1+DTX2	µg OA eq./kg	475	73.1	15.4	54	486	48.9	12.4	455	-	495
Total-DTX1	µg/kg	429	105.1	24.5	54	439	69.5	17.9	401	-	458
Total-DTX2	µg/kg	219	44.5	20.3	54	219	31.5	7.6	207	-	231
Total-Okadaic-Acid	µg/kg	530	138.3	26.1	54	546	96.3	23.5	493	-	568
Total-hy-OA+DTX1+DTX2	µg OA eq./kg	1090	194	17.7	53	1120	133	33	1040	-	1147
Total OA group + PTX group	µg OA eq./kg	1080	237	21.9	37	1110	160	49	1005	-	1163



### Indicative Values BT11

#### Method: Toxins(SF) - BT11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
PTX-2	µg/kg	4.79	1.531	31.9	11	5.00	0.900	0.577	3.78 - 5.81
YTX	mg/kg	0.143	0.0621	43.3	52	0.151	0.0455	0.0108	0.126 - 0.161
45-OH-YTX	mg/kg	0.0558	0.0254	45.4	23	0.0609	0.0171	0.0066	0.0449 - 0.0668
Total-YTX	mg YTX eq./kg	0.182	0.0768	42.1	40	0.205	0.0549	0.0152	0.158 - 0.207