Saxitoxin in Freshwater
Sample Preparation

1. Intended Use

For the detection of Saxitoxin in freshwater samples: groundwater, surface water, drinking water, effluent.

2. Materials Required (Not Provided)

Pipettes capable of delivering 100 and 900µL
Glass sample collection vials with Teflon lined caps
ABRAXIS® Saxitoxin (PSP) ELISA Kit (PN 52255B)

3. Notes and Precautions

Immediately upon collection, freshwater samples must be preserved with 10X Concentrated Sample Diluent to prevent adsorptive loss of Saxitoxin from the sample. This step is necessary for freshwater samples only.
Treated drinking water samples, in addition to being preserved with 10X Concentrated Sample Diluent, must be quenched with sodium thiosulfate or ascorbic acid immediately upon collection to remove residual chlorine. Sodium thiosulfate orascorbic acid at 0.1 mg/mL is recommended. If necessary, samples can be quenched with concentrations up to and including 1 mg/mL (concentrations above 1 mg/mL will cause interference in the assay). Sodium thiosulfate or ascorbicacid may be added to the sample container prior to collection. Avoid overfilling pre-treated sample bottles, as quenching reagents may be lost, producing insufficiently quenched samples and therefore inaccurate sample results. The quenchingof residual chlorine is necessary for treated water samples only. Raw (untreated) drinking water samples (samples not treated with chlorine) do not require sodium thiosulfate or ascorbic acid at the time of collection.
Saxitoxin is an intracellular, as well as extracellular, toxin. Therefore, to measure total Saxitoxin, cell lysing will be required. Once the sample is preserved, three freeze/thaw cycles are recommended for cell lysing. This procedure using the three freeze/thaw cycles will not degrade Saxitoxin.

4. Procedure (for preserving with 10X Concentrated Sample Diluent)

Add 100µL of 10X Concentrated Sample Diluent per 900µL of Sample. Cap container and invert several times to thoroughly mix.
The sample is now ready to analyze according to the procedure described in the ABRAXIS® Saxitoxin Kit package insert.

5. Evaluation of Results

Results obtained with freshwater samples which have been preserved with 10X Concentrated Sample Diluent as described above must be multiplied by a factor of 1.1 to account for the initial dilution of samples with 10X Diluent.

6. Performance Data

Recovery
Four (4) freshwater samples were spiked with various levels of Saxitoxin, preserved as described above, and then assayedusing the Saxitoxin Assay. The following results were obtained

Amount of Saxitoxin Added (ppb)	Mean (ppb)	48 Hours Mean (ppb)	Recovery 1 Week Mean (ppb)	S.D. (ppb)	%
0.04	0.046	0.046	0.050	0.002	117.9
0.08	0.087	0.085	0.086	0.001	107.5
0.2	0.227	0.217	0.217	0.006	110.1
Average					111.8

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