Microcystins in Recreational Water
Sample Collection, Preparation, Storage and Transportation

1. Intended Use
For the collection, preparation, storage, and transportation of recreational water samples (lakes, ponds, reservoirs, etc.) to be analyzed using the Abraxis Microcystins ELISA Kits. **NOTE:** This guidance is not intended to replace local, state or federal requirements.

2. Sample Collection
Collect at least 100 mL of water sample and store in **glass or polyethylene terephthalate (PETG)** sample containers. Use of other types of plastic collection and/or storage containers may result in adsorptive loss of Microcystins, producing inaccurate (falsely low) results.

3. Sample Storage/Transportation
Samples can be stored refrigerated for up to 5 days. If samples must be held for greater than 5 days, samples should be frozen. If samples are to be shipped, they should be shipped overnight, on ice.

4. Notes and Precautions
To prevent matrix interference during analysis, sample pH must be within the range of 5 – 11. Samples with pH levels outside of this range may produce inaccurate (falsely low) results and should be adjusted as necessary, using hydrochloric acid (HCl) or sodium hydroxide (NaOH), prior to analysis.

Samples may be filtered prior to analysis using glass fiber filters (Environmental Express 1.2 µm syringe filters (Environmental Express part number SF012G) are recommended). If determining total Microcystins concentration, samples should be lysed prior to filtration (see section 5 below) to prevent the removal of cell-bound Microcystins, which would cause inaccurate (falsely low) results.
Note: The use of alternate filter types (non-glass fiber filters) may produce inaccurate (falsely low) results, as Microcystins may bind to the filter material, removing it from the sample.

5. Sample Lysing
To determine total Microcystins concentration (free and cell-bound), samples must be lysed prior to analysis. Samples may be lysed using QuikLyse™ (please see the QuikLyse™ users guide for additional information) or freeze/thaw methods.
Note: The use of sonication in cell lysing can negatively affect toxin concentrations, producing falsely low sample results.

To lyse samples using the freeze/thaw method:

5.1 Shake the sample thoroughly. Add 1 mL of sample to an appropriately labeled glass vial.

5.2 Place the vial, lying on its side, in a freezer (< 0ºC) until completely frozen (approximately 1 hour, depending on freezer temperature).
Note: The vial should be placed on its side to allow for expansion of the water sample as it freezes, therefore decreasing the potential for vial breakage.

5.3 Remove the sample from the freezer and allow it to thaw completely (no visible ice crystal remaining in the sample). The sample may be placed in a room temperature or up to 37ºC water bath to thaw more rapidly.

5.4 Repeat steps 5.2 and 5.3 for an additional two cycles (for a total of three freeze/thaw cycles).

The sample is now ready to analyze. Please see the appropriate user's guide for sample analysis procedures.

6. Assistance

For ordering or technical assistance contact:
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