

Cylindrospermopsin ELISA Kit

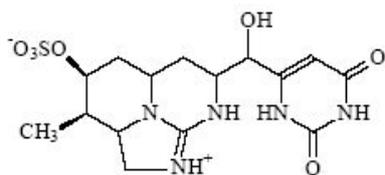
The antibody binds Cylindrospermopsin and does not cross-react with other non-related toxins or compounds.

The assay range is between 0.05 ppb and 2.0 ppb. The assay sensitivity allows the determination of Cylindrospermopsin in a range of environmental samples (water, fish tissue, fish plasma, etc).

Total time for measurement is less than 90 minutes.

The kit, a 96-well microtiter plate format with ready to use, colour coded reagents, enables simultaneous measurement of multiple samples at a reasonable cost.

Chemical structure

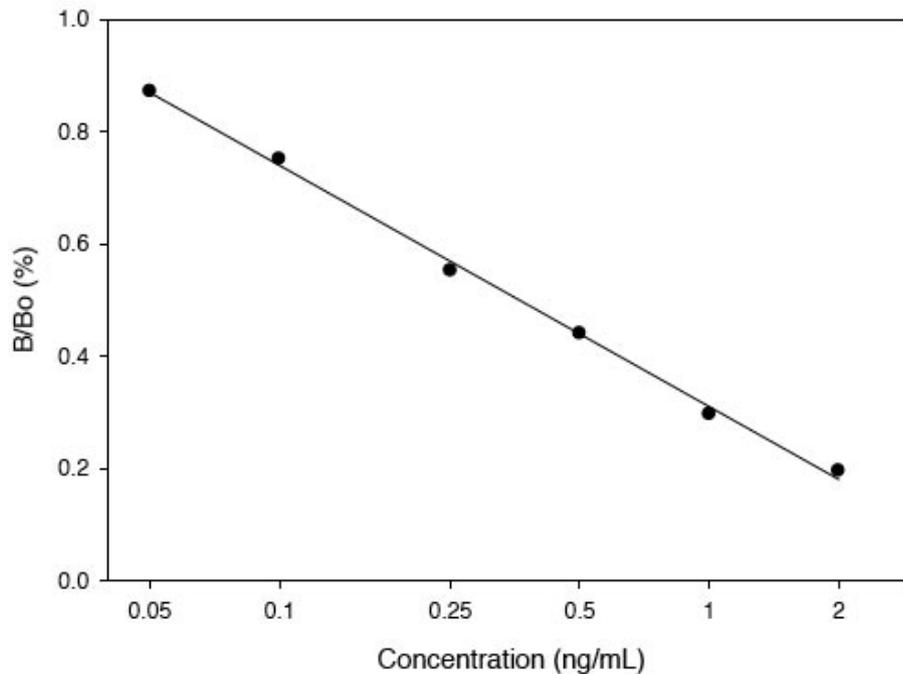


Most of the world's population relies on surface freshwaters as its primary source for drinking water. The drinking water industry is constantly challenged with surface water contaminants that must be removed to protect human health. Toxic cyanobacteria (blue-green algae) blooms are an emerging issue in the U.S. and the world because of increased source water nutrient pollution caused by eutrophication. Cylindrospermopsin is a naturally produced toxin of several cyanobacterial strains and has been found in fresh water throughout the world. Certain strains of *Cylindrospermopsis raciborskii* (Australia, Hungary, United States), *Umezakia natans* (Japan), *Aphanizomenon ovalisporum* (Australia, Israel) have been found to produce cylindrospermopsin. The production of cylindrospermopsin seems to be strain specific and not species specific.

Acute poisoning of humans and animals constitutes the most obvious problem from toxic cyanobacterial blooms, and in several cases has led to death. These toxins mediate their toxicity by inhibiting liver function and are potent inhibitors of protein synthesis and glutathione, leading to cell death. Human exposure to cylindrospermopsin may occur by ingestion of toxin contaminated water during recreational activities or by ingestion of food (fish or water contaminated with the toxin). Dermal contact with cylindrospermopsin may occur during showering or bathing, or during recreational activities such as wading, swimming, boating, or water skiing. To protect consumers from adverse health effects caused by algal toxins, the WHO has proposed limits for some toxins (i.e microcystin-LR) in drinking water and in recreational waters. A tolerable daily intake (TDI) of cylindrospermopsin along with the guideline values (GV) for human exposure have been calculated on acute toxicity studies in mice. The TDI is 0.02 g/Kg body weight/day. It was estimated that GVs for adult, children, and infants were 0.48, 0.16, and 0.11 g/L, respectively, based on a drinking water consumption of 2L for a 60-Kg adult, 1L for a 10-Kg child, and 0.75L for a 5-Kg infant.

The ELISA kit detects the Cylindrospermopsin in environmental samples at the sub-ppb levels.

Cylindrospermopsin Standard Curve



Samples containing Cylindrospermopsin within the dynamic range (0.05-2.2 ppb) can be directly tested in the assay

Basic Test Procedure

- Add 50 μ l of sample, 50 μ l of enzyme conjugate, and 50 μ l of antibody solution.
- Incubate for 45 minutes.
- Wash 4 times with 250 μ l of wash solution.
- Add 100 μ l of colour solution.
- Incubate for 30-45 minutes.
- Stop the reaction by adding 100 μ l of stop solution and read colour at 450 nm.
- Quantitate results

Kit Format

Microplate (96T) and reagents PN 522011

Distributed in Europe by
Biosense Laboratories AS

Kit manufactured by
Abraxis LLC

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