biosense® LABORATORIES

Prod. no. L34000410
Product Description

Microcystins-DM ELISA Kit

The Microcystins-DM (direct monoclonal) ELISA is an immunoassay for the quantitative and sensitive detection of microcystins and nodularins in water samples.

The assay range is between 0.15-5.0 ppb.

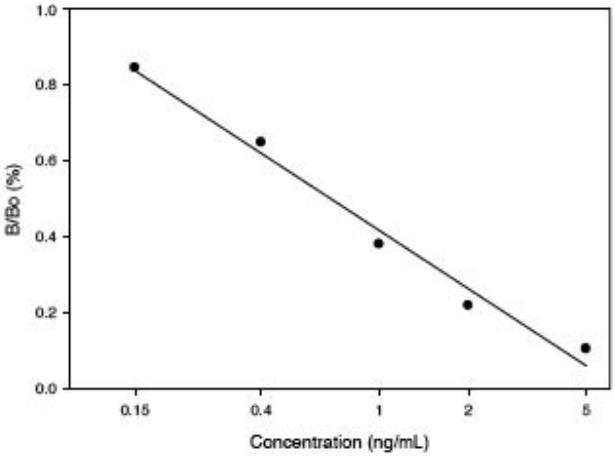
The detection limit for this assay based on MC-LR is 0.10 ppb (ng/L).

Total time for measurement is less than 2 hours.

The kit, a 96-well strip microplate format (12 strips of 8) with ready to use reagents, enables simultaneous measurement of multiple samples at a reasonable cost.

Importance of Microcystins/Nodularins Determination

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 because of increased source water nutrient pollution caused by eutrophication. Microcystins and Nodularins are cyclic toxin peptides. Microcystins (several structural variants or congeners are found) have been found in freshwater throughout the world, they are produced by the genus *Microcystis, Anabaena, Oscillatoria, Nostoc, Anabaenopsis*, and terrestrial *Hapalosiphon*. Nodularins are produced by the genus *Nodularia* and they are found in marine and brackish water. To date, approximately 65 variants of microcystins have been isolated, the most common variant is microcystin-LR. Other common microcystin variants include YR, RR, and LW. The ELISA test kit allows for the detection of congener-independent microcystin/nodularin toxins in environment samples at the ppt levels.



Specificity

The cross-reactivity of the Microcystins-DM ELISA for various Microcystin congeners can be expressed as the least detectable dose (LDD) which is estimated at 90% B/Bo, or as the dose for 50% absorbance inhibition (50% B/Bo)

Compound	LDD (ppb)	50% B/Bo (ppb)	X-reactivity (%)
Microcystin LR	0.093	0.066	100
Microcystin YR	0.120	1.03	64
Microcystin RR	0.193	1.24	53
Microcystin LA	0.210	1.39	48
Nodularins	0.05	0.87	76
N-hemi-ADDA	0.105	1.80	38
ADDA	0.62	4.85	15
D-Phenylalanine	NR	NR	NR
L-Phenylalanine	NR	NR	NR
DL-Phenylalanine	NR	NR	NR
NR = no reactivity up to 1000 ppb			

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