ELISA Kit for Environmental Pollutants

Microcystins / Nodularins

Microcystins-DM ELISA Kit

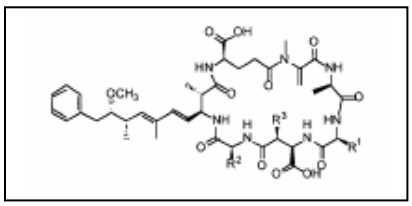
◇ Patented technology. The monoclonal antibody binds with microcystins and nodularins, allowing the determination of these toxins and many of its congeners, and does not cross-react with other non-related toxins or compounds.

◇ The assay range is between 0.15 ppb and 5 ppb. A sensitive assay to determine microcystins/nodularins concentration in environmental samples.

◇ Direct assay, no pre-incubation steps necessary. Total time for measurement is less than 2 hours.

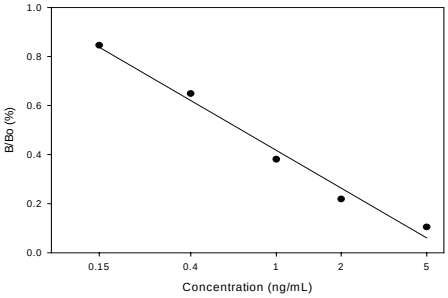
◇ The kit, a 96-well microplate format with ready to use color coded reagents, enables simultaneous measurement of multiple samples at a reasonable cost.

Chemical Structure



Microcystins/Nodularins are toxins produced by cyanobacteria (blue-green algae). Acute poison in humans and animals can be caused by these toxins, and in several cases has led to death. These toxins inhibit liver function and might act as tumor promoters. To protect consumers from adverse health effects caused by these types of toxins, the WHO has proposed a provisional upper limit for mycrocystins-LR of 1000 ppt in drinking water. Many different structural variants or congeners of mycrocystins and nodularins are found, the most common variant is mycrocystin-LR. HPLC or the PPA, are generally employed methods for quantitative microcystin analysis, however, they require expensive instrumentation as well as complex procedures. This ELISA test kit allows for the detection of congener-independent microcystins/nodularins toxins in environment samples at the ppt levels.

Microcystins Standard Curve

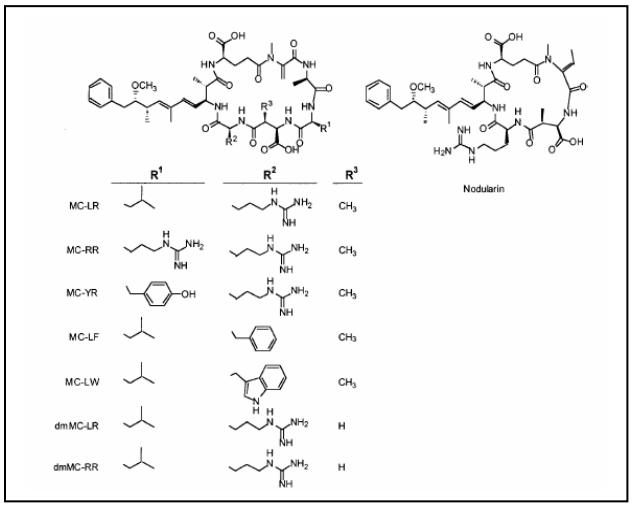


Samples containing mycrocystins/nodularins within the dynamic range (0.15 – 5 ppb) can be directly tested in the assay after filtration.

ABRAXIS

Cross-reactivity Pattern

Cross-reactivity against microcystins and nodularin congeners.



Specificity

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

Compound	LDD (ppb)	50% B/Bo (ppb)	X-reactivity (%)
Microcystins LR	0.093	0.066	100
Microcystins YR	0.120	1.03	64
Microcystins RR	0.193	1.24	53
Microcystins 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

References

- U.S. Patent 6,967,240
- Worldwide Patent PCT WO 01/18059 A2
- M. G. Weller, A. Zeck, A. Eikenberg, S. Nagata, Y. Ueno, and R. Niessner, Development of a Direct Competitive Microcystins Immunoassay of Broad Specificity. Analytical Sciences. 17, 2001, 1445-1448

Kit Format

Microplate (96T) and reagents PN 522015

Manufactured by
Abraxis LLC
54 Steamwhistle Drive
Warminster, PA 18974
Phone: (215) 357-3911
FAX: (215) 357-5232
Email: info@abraxiskits.com