

PRODUCT INFORMATION



Microcystin-LR

Item No. 10007188

CAS Registry No.: 101043-37-2
Formal Name: cyclo[2,3-didehydro-N-methylalanyl-D-alanyl-L-leucyl-(3S)-3-methyl-D-β-aspartyl-L-arginyl-(2S,3S,4E,6E,8S,9S)-3-amino-9-methoxy-2,6,8-trimethyl-10-phenyl-4,6-decadienoyl-D-γ-glutamyl]

Synonyms: Cyanoginosin-LR,
Toxin T 17 (*M. aeruginosa*),
MC-LR

MF: C₄₉H₇₄N₁₀O₁₂

FW: 995.2

Purity: ≥95%

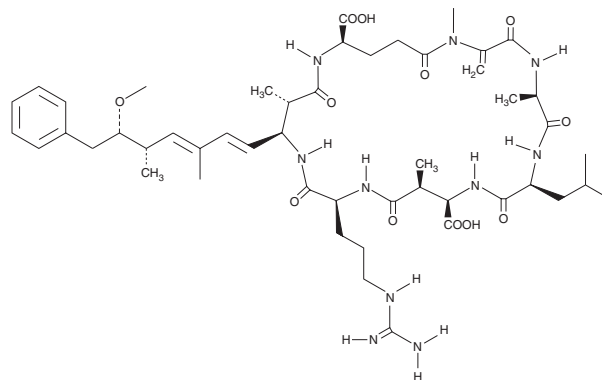
Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Bacterium/*Microcystis aeruginosa*

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.



Laboratory Procedures

Microcystin-LR is supplied as a solid. A stock solution may be made by dissolving the microcystin-LR in the solvent of choice, which should be purged with an inert gas. Microcystin-LR is soluble in organic solvents such as ethanol, DMSO, and methanol. The solubility of microcystin-LR in these solvents is approximately 10 mg/ml.

Microcystin-LR is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Microcystin-LR is a cyanotoxin and an inhibitor of protein phosphatase 2A (PP2A; $K_i = 9 \text{ pM}$).¹ It selectively inhibits PP2A over PP1C and PP1 γ (K_i s = 180 and 240 pM, respectively). Intratracheal administration of microcystin-LR (100 $\mu\text{g}/\text{kg}$) induces hepatic bleeding in mice. Microcystin-LR has been found in freshwater with cyanobacterial blooms.²

References

1. Ito, E., Takai, A., Kondo, F., *et al.* Comparison of protein phosphatase inhibitory activity and apparent toxicity of microcystins and related compounds. *Toxicon* **40**(7), 1017-1025 (2002).
2. Romera-García, E., Helmus, R., Ballesteros-Gómez, A., *et al.* Multi-class determination of intracellular and extracellular cyanotoxins in freshwater samples by ultra-high performance liquid chromatography coupled to high resolution mass spectrometry. *Chemosphere* **274**, 129770 (2021).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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