Microcystin-LW

Inhibitor of PP1 and PP2A

Microcystin-LW (MC-LW) is an analog of microcystin-LR (Prod. No. ALX-350-012) with Trp substituted in place of Arg. MC-LW is hydrophobic and more cell permeable than other microcystins. This increased cell permeability can be useful for biochemical studies in intact cells. MC-LW has a characteristically different absorption spectrum compared to other microcystins, making it a useful reference compound for HPLC analysis. The Trp confers an absorption maximum at 222nm, whereas most microcystins have a characteristic maximum at 239nm.

May require a license for import, please contact us for more information.

Cyanobacteria are photosynthetic prokaryotes mostly present in freshwater ecosystems. The increasingly frequent appearance of cyanobacteria blooms in lakes and rivers is linked to climate changes and human activities. Microcystins are a group of cyclic heptapeptide hepatotoxins produced by a number of cyanobacterial genera. The most notable of which, and namesake, is the widespread genus $\it Microcystis$. Structurally, all microcystins consist of the generalized structure $\rm cyclo(-D-Ala^1-X^2-D-MeAsp^3-Y^4-Adda^5-D-Glu^6-Mdha^7-)$. X and Y are variable L-amino acids, D-MeAsp is D-erythro- β -methylaspartic acid and Mdha is N-methyldehydroalanine. Adda is the cyanobacteria unique $\rm C_{20}$ β -amino acid 3-amino-9-methoxy-2,6,8-trimethyl-10-phenyl-deca-4,6-dienoic acid. Substitutions of the variable L-amino acids at positions 2 and 4 give rise to at least 21 known primary microcystin analogs and alterations in the other constituent amino acids result in more than 90 reported mycrocystins to date.

Citations: 34

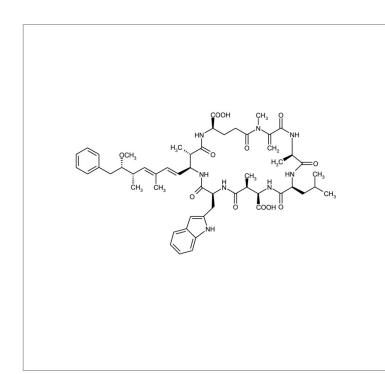
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Ordering Information

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ALX-350-080-M001	1mg
ALX-350-080-C025	25µg
ALX-350-080-C100	100µg

- Potent inhibitor of PP1 and PP2A
- Used in biochemical studies in intact cells
- Cited in several environmentrelated research articles





Handling & Storage

Use/Stability As indicated on product label or CoA when stored as recommended.

Handling For maximum product recovery after thawing, centrifuge the vial before opening the cap.

Long Term Storage -20°C

Shipping Ambient Temperature

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name MC-LW

Appearance Whitish film adhered to inside of the vial.

CAS 157622-02-1

Couple Target Serine/threonine-protein phosphatase

Couple Type Inhibitor

Formula $C_{54}H_{72}N_8O_{12}$

Identity Identity determined by MS.

MW 1025.2

Purity ≥95% (HPLC)

Solubility Soluble in 100% methanol.

Source Isolated from *Microcystis aeruginosa*.

Last modified: May 29, 2024

