

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 *Microcystis*. Structurally, all microcystins consist of the generalized structure cyclo(-D-Ala¹-X²-D-MeAsp³-Y⁴-Adda⁵-D-Glu⁶-Mdha⁷-). 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 C₂₀ 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 microcystins to date.

Citations: 34

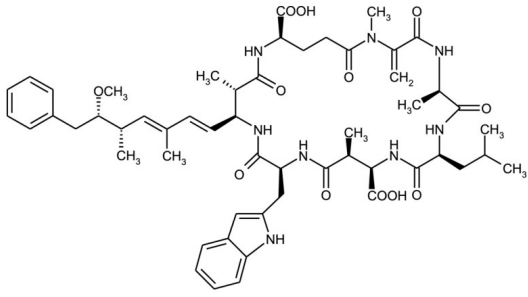
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Ordering Information

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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 environment-related 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 <i>Microcystis aeruginosa</i> .

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